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START OF THE PROJECT GUTENBERG EBOOK THE FUNDAMENTAL PRINCIPLES OF OLD AND NEW WORLD CIVILIZATIONS

The Fundamental Principles

Of

Old and New World Civilizations

A Comparative Research Based on a Study of the Ancient Mexican Religious, Sociological, and Calendrical Systems.

By

Zelia Nuttall

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March, 1901.

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Editorial Note.

The author of this volume explains in her preface how she came to be led beyond her special field of research into a comparative study of the early civilizations of the Old World; and how she traced the origin of the swastika, in Mexico, to an astronomical source and, in all countries alike, found its use as a sacred symbol accompanied by evidences of a certain phase of culture based on pole-star worship, and the recognition of the fixed laws of nature, which found expression in the ideal of celestial kingdoms or states organized on a set numerical plan and regulated by the apparent revolutions of circumpolar constellations.

The results of the author's researches seem to justify her summary of conclusions; but she distinctly states that she does not wish to propound any theory. She invites further study and discussion by Orientalists and Americanists before drawing final conclusions from the facts she has gathered. The publication of this paper will open anew

the consideration of pre-Columbian visits to the New World, shown, as many have believed, by identities too many and too close to be considered as mere resemblances or as the natural results of independent intellectual development.

The illustrations are nearly all from drawings by the author. The analytical Index has been prepared by Miss Mead. It will be seen, by the numbering at the bottom of each page, that it was at first intended to include this paper in Volume I of the Archaeological and Ethnological Papers of the Museum; but the addition of the text relating to the Old World made too bulky a volume, and it is therefore issued as Volume II of the series.

To Mrs. Nuttall for the gift of her work, the results of years of research, and to the several generous friends who have provided the means for publishing this volume, the editor expresses his gratitude in behalf of the Museum.

F. W. PUTNAM,
Curator of the Peabody Museum.
Harvard University,
March 1, 1901.

Author's Preface.

In February, 1898, while engaged upon the translation and commentary of the anonymous Hispano Mexican MS. of the Biblioteca Nazionale Centrale Library, of Florence, my interest was suddenly and unexpectedly diverted from my self-imposed task by the circumstances described in the opening pages of the present publication.

Laying my work aside, as I then supposed, for a few days only, I seized the new thread of investigation with a keen and enthusiastic interest, little knowing that it, in turn, was not only to hold me fast for nearly three years, but was to lead me out of my original field of research, into distant, and to me, hitherto untrodden realms, in close pursuit of facts relating to the oldest forms of religion, social organization, and symbolism.

The first portion of the present publication was planned as a short monograph of forty-one pages, treating of the origin of the native swastika or cross symbols, and was written in July, 1898, its outcome being the unforeseen conclusion that the cosmical conceptions of the ancient Mexicans were identical with those of the Zuñis. I next traced the same fundamental set of ideas in Yucatan, Central America and Peru and formed the wish to add this investigation to the preceding. The result has been the portion of the work extending from page 41, paragraph 2, to page 284, which was printed in 1899.

Having once launched into a course of comparative research, the deep interest I have always taken in the question of Asiatic contact led me to carry my investigation of the same subject into China. It then seemed impossible not to extend researches from Eastern to Western Asia, and from Asia Minor to Egypt, Greece, Rome and Western Europe. It is in this unpremeditated way that the scope of the present investigation enlarged

itself of its own accord, for the simple reason that the most interesting and precious [pg 005] facts fell into my way as I advanced and all I had to do was to pick them up and add them to my collection of evidence.

One serious disadvantage, arising from the circumstance that the present investigation has been in press for nearly three years, is my inability to make any alteration, amendment, or addition, in the earlier portions, which stand as written at different times. It is a matter of regret to me that I was not acquainted with O'Neil's “Night of the Gods” and Hewitt's “Ruling Races of Prehistoric Times,” at an earlier stage of my investigation, as through them my publication would have been enriched by many valuable additions which I could have incorporated in the body of my work without unduly sacrificing its unity of form.

In the line of Maya investigation notable advances have been made since I wrote (on page 221), about the “septenary set of signs” described by Mr. A. P. Maudslay in 1886, and about the inscription on the tablet of the Temple of the Cross at Palenque (pp. 237-39). Since that time an important publication on the Tablet of the Cross, to which I should have liked to refer, has been issued by the much esteemed Nestor of Maya investigations, Herr Geheimrath Dr. Förstemann. My attention has also been drawn by the best versed of American students of the Maya Codices, Mr. Charles P. Bowditch, to the fact that Mr. Maudslay now recognizes the general recurrence of an eighth sign in combination with the septenary group, causing this to consist of an initial glyph, followed by seven instead of six signs. Referring the reader to pp. 221 and 222, I point out that the employment of an initial glyph, representing the synopsis of a whole, followed by seven signs, appears even more strongly to corroborate my view that the inhabitants of Copan were acquainted with the septenary, cosmical division I have traced.

My fellow archaeologists will understand the

disadvantage of issuing an investigation partly written a few years previously, and will realize that, had I, at the outset, been in possession of all the facts I have since learned, the present work would have been very differently planned and executed. On the other hand, as it partakes somewhat of the nature of a log-book, the reader is able to follow closely my blundering course, and will recognize and appreciate some of its perils and difficulties. It being, unfortunately, impossible to re-write the book. I shall have to be resigned to incur some criticism and blame for omissions, which could have been [pg 006] averted. I shall, however, be content if my prolonged study of ancient Mexican archaeology and the present research open out new lines of investigation, and conclusively prove that primitive cross-symbols and the swastika are universally accompanied by vestiges of a certain set of cosmical conceptions and schemes of organization, which can be traced back to an original pole-star worship. I can but think that the material I have collected will also lead to a recognition that the rôle of the Phœnicians, as intermediaries of ancient civilization, was greater than has been supposed, and that it is imperative that future research be devoted to a fresh study and examination of those indications which appear to show that America must have been intermittently colonized by the intermediation of Mediterranean seafarers.

To me the most interesting result of the present investigation is the fact that, having once started on an unpremeditated course of study, I found an unsuspected wealth of material and finally attained one main, totally undreamed-of conclusion, concerning the law governing the evolution of religion and civilization. This leads me to think that, as I groped in darkness, searching for light, I unwittingly struck the true key-note of that great universal theme which humanity, with a growing perception of existing, universal harmony, has ever been striving to seize and incorporate into their lives. The fact that many of the transcriptions of the original harmony

have been and are discordant, and that they temporarily obscure, instead of rendering, its sublime grandeur, unity and noble simplicity, appears as the inevitable result of the mental activity, ingenuity and creative imagination to which mankind also owes its intellectual and spiritual progress.

In conclusion I regret my inability to express adequately my grateful appreciation of the unfailing loyalty of those true friends, in particular Prof. F. W. Putnam, who, trusting in the earnestness of my purpose and endeavor, have constantly encouraged and cheered me as they patiently awaited the long-delayed completion of my work.

Z. N.
CAMBRIDGE, MASS.,
DECEMBER 31, 1900.

The Fundamental Principles Of Old And New World Civilizations.

One evening, in February, 1898, I left my desk and, stepping to the window, looked out at Polaris and the circumpolar region of the sky, with a newly awakened and eager interest.

For thirteen years I had been studying and collecting material with the hope of obtaining some understanding of the calendar, religion and cosmogony of the ancient Mexicans, but had hitherto purposely refrained from formulating or expressing any conclusions on the latter subjects having felt unable to extract a clear and satisfactory understanding of the native beliefs from the chaotic mass of accumulated data under which they lay like the ruin of an ancient temple. Though frequently discouraged, I had, however, never ceased to pursue my research and to note carefully the slightest indication or suggestion which might prove of ultimate value. Becoming utterly absorbed in the collection of such notes, I found no time to publish anything during the past four years, though realizing, with regret, that those interested in my work might be disappointed at my delay in issuing the papers announced, in 1894, as speedily forthcoming. Slowly but steadily, however, I was gaining ground.

Various excursions along new lines of research increased my experience and, in crossing and re-crossing the field of ancient Mexico, I frequently had occasion to observe certain familiar landmarks, from a new point of view, and illuminated by rays of fresh light proceeding from recently acquired sources. It was remarkable how often facts, which had seemed so hopelessly complicated, finally appeared to be quite simple and comprehensible. This was noticeably the case with the Aztec deities which, for years, had seemed to me as numberless. After closely studying their respective symbols, attributes and names, during several consecutive months, and subjecting them to a final minute analysis, I found that their number dwindled in a remarkable way and also verified the truth of the statement made by the anonymous author of the Biblioteca Nazionale manuscript which I was editing, that [pg 008] the Mexicans painted one and the same god under a different aspect "with different colours," according to the various names they gave him in each instance.

It was particularly interesting to find that, in assuming that certain names designated different native deities, the early Spanish writers had committed a mistake as great as though someone, reading the litany of the Virgin in a Catholic prayer-book, for the first time, inferred that it was a series of invocations addressed to distinct divinities, amongst whom figured the "morning star," a "mirror of justice," and a "mystical rose," etc. An examination of the texts of several native prayers preserved, established that the Mexicans addressed their prayers to a supreme Creator and ruler, whom they termed "invisible, incomprehensible and impalpable," and revered as "the father and mother of all." Some of their so-called idols were, after all, either attempts to represent in objective form, the attributes of the divine power, the forces of nature, the elements, etc., or rebus figures. As these "gods" or "idols" are enumerated farther on and are exhaustively treated in my commentary of the Biblioteca Nazionale manuscript, now in press, it suffices for my

present purpose merely to mention here that the most mysterious figure of Mexican cosmogony, Tezcatlipoca, whose symbolical name literally means “shining mirror,” proved to be identical with Mictlantecuhtli, the lord of the underworld, whose title may also be interpreted as “the ruler or regent of the North,” since Mictlampa is the name of this cardinal point.

The Codex Fuenleal (Anales del Museo Nacional, Mexico, tomo II, p. 88) preserves an important myth relating how Tezcatlipoca, after having been the sun, was cast down from this supreme position by Huitzilopochtli, “descended to the water,” but had arisen again in the shape of an ocelot, and transformed himself into the constellation of Ursa Major.

According to Sahagun the native name of this star-group was Citlal-Colotl or “star scorpion.” Reference to Nahuatl dictionaries revealed that this insect had doubtlessly been named colotl on account of its habit of recurving its tail when enraged.

The Nahuatl verb coloa means, to bend over or twist something, the adjective coltic is applied to something bent over or recurved. The noun colotli, which is almost identical with colotl, means “the cross-beams, the mounting, branch or handle of a cross” (“armadura de manga de cruz.” See Molina's dictionary).

[pg 009]
The above facts show that the idea underlying the name for Ursa Major is primarily that of “something bent over or recurved.” It is obvious that the form of the constellation answers to this description. It is, moreover, extremely significant to find, in the Maya language also, a certain resemblance between the words for scorpion and for a cross. This, in Maya, is zin-che and that for a scorpion is zin-au. The above data justify the induction that the native conception of a cross was connected with the idea of its arms being bent over or recurved, as in the Mexican calendar-swastika.

It is important to find the scorpion figured as one of several symbols of Mictlantecuhtli, the lord of the North, in his sculptured effigy preserved at the National Museum of Mexico (fig. 19).

It is more significant that the verb coloa, besides meaning "to bend over or twist something," also expressed the action "of describing or performing a circle by walking around something." Now this is precisely what Tezcatlipoca (the Ursa Major) is represented as doing on page 77 of the B.N. manuscript, since he figures there, surrounded by a circle of footsteps. I could but note that this fact showed that the name of Colotl, applied to the constellation, was not incompatible with its identification with Tezcatlipoca. Once my attention had been drawn to the action of walking, performed by this god, I naturally considered, with fresh interest, the peculiar fact that he is usually represented with one foot only. The circumstances under which he had been deprived of this member are set forth in several of the Codices wherein we see that, after he "descended to the water," he had an encounter with an alligator, who had viciously bitten off his foot and carried it away. (See Féjérvary Codex, pp. 3 and 74. Vatican, II, p. 74.) Pictures representing Tezcatlipoca, after this event, display the broken end of the tibia exposed and the transverse section of the bone forming a ring, usually painted either white or red. Special pains seem to have been taken to accentuate the hollowness of the bone ring, since its centre is usually painted blue, the symbolical color of air, and conventionalized puffs of breath or air are shown as issuing from it (fig. 1). In some cases, as on the sculptured monolith called "the Stone of Tizoc," these symbols of breath, issuing from the broken tibia, are figured in such a way that modern writers, ignoring what they were meant to represent, were led to identify them as some animal's tail attached to the foot of the deity. The hollow circle and puffs of air, constantly associated [pg 010] with the god, frequently figure as his ear ornament when his broken tibia is concealed (fig. 2, no. 3). Besides certain fanciful interpretations which have been given to

this symbol, it has been explained as being a hieroglyph conveying the name Tezcatlipoca, and consisting of an obsidian mirror = tezcatl, and smoke = poctli. A possible objection to this assertion might be that in Mexican pictography, the mirror is invariably represented as jet-black, in a white or red frame. In the Codex Telleriano Remensis, a combination of symbols (of water, fire and a serpent) are figured as issuing from the base of the bone (fig. 1, nos. 5, 6). Having taken particular pains to collect all representations of the footless god, I was specially interested in one (Féjérvary, p. 1) in which he is figured as standing on the cross-shaped symbol ollin, the accepted meaning of which is Four Movements. The most remarkable and puzzling picture I found, however, is that (fig. 1, no. 2) in which the jaws of a tecpatl, the symbol of the North, are represented as holding one of Tezcatlipoca's ankles in a tight grip and practically fastening him thus to the centre of a diagonal cross. In this and other pictures (Codex Féjérvary, 41, 43 and 96) it is obvious that the artists had endeavored to convey the idea of a person permanently attached to one spot by one foot. The only form of locomotion possible to him would be to describe a circle by hobbling on one foot around the other, which would serve as an axis or pivot. The association of this peculiarity with the symbols of the North impressed me deeply and involuntarily caused [pg 011] me to think of a title bestowed in the Codex Fuenleal upon the supreme divinity, namely, “The Wheel of the Winds;” as well as of an expression employed by Tezozomoc (Cronica, p. 574). Referring to the constellations revered by the natives, he mentions “the North and its wheel.”

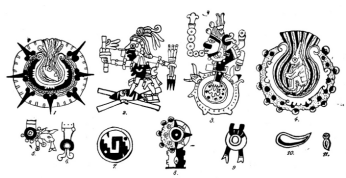


Figure 1

Realizing that some definite and important meaning must underlie the remarkable representations of Tezcatlipoca, I resorted to all possible means to gain an understanding of them. Referring to Nahuatl dictionaries, I found a variety of synonymous names for a person who limped or was lame or maimed. Amongst them was Popoztequi from poztequi, the verb, "to break a leg." Other names were xopuztequi, xotemol and Icxipuztequi (icxitl = foot). The latter name happened to be familiar to me, for the commentator of the Vatican Codex, Padre Rios, gives it as the name of a god and translates it as "the lame devil." He records it immediately after Mictlantecuhtli, the lord of the North, and designates it as the name of one of the four principal and primitive gods of the Mexicans.

The commentator of the Telleriano-Remensis Codex, moreover, records that these four gods were "said to have been stars and had fallen from the heavens. At the present time there are stars in the firmament named after them" (Kingsborough, vol. v, pp. 132 and 162).

Other synonymous terms for lame persons were icxinecuiltic and xonecuiltic. Tzimpuztequi, on the other hand, besides meaning lame, also signified something crooked, bent or incurvated. The second name furnished me with an important clue, for Sahagun distinctly records that the native name for the constellation Ursa Minor was Xonecuilli and that it was figured as an S (Historia, 1. VII, cap. 3). Besides, the Academia MS. of his monumental work contains the native drawing of this star-group reproduced as fig. 16, no. 1. He also states that S-shaped loaves of bread named xonecuilli were made at a certain festival in honor of this constellation, while the B.N. MS. records that a peculiar recurved weapon, figured in the hands of deities, was named xonequitl (fig. 16, nos. 2 and 3).

The above data furnished me with indisputable evidence

of the existence, in ancient Mexico, of a species of star cult connected with the circumpolar constellations and with Tezcatlipoca, the lord of the North, the central figure of the native cosmogony. It was puzzling to find this god connected not only with the Ursa Major but also with Ursa Minor, but an indication suggesting a possible [pg 012] explanation or reconciliation of these apparent inconsistencies is furnished by the descriptions of the strange ritual performance, which was annually repeated at the festival Tlacaxipehualiztli and was evidently the dramatization of a sacred myth.

As an illustration and a description of this rite are contained in the B.N. MS. and the subject is fully treated in my commentary, I shall but allude here to its salient features. It represented a mortal combat between a prisoner, attached by a short piece of cord to the centre of a large circular stone, and five warriors, who fought him singly. The fifth, who was masked as an ocelot and always obtained victory in the unequal contest, fought with his left hand, being "left-handed," a peculiarity ascribed to Huitzilopochtli. It was he who subsequently wore the skin of the flayed victim, an action which obviously symbolized a metamorphosis. One point is obvious: this drama exhibits the victor as a warrior who was able to circumscribe the stone freely and was masked as an ocelot—Tezcatlipoca—the Ursa Major, but was endowed, at the same time, with the left-handedness identified with Huitzilopochtli. This mythical personage vanquishes and actually wears the skin of the man attached to the stone; becomes his embodiment, in point of fact, and obtains the supremacy for which he had fought so desperately. In the light shed by the Codex Fuenleal, before cited, it was easy to see that the entire performance dramatized the mythical combat between Tezcatlipoca and Huitzilopochtli for the position of the ruling power, in the heavens—the sun. At the same time it was decidedly puzzling to find celestial supremacy personified by a man, firmly fastened to one spot, the centre of a stone circle. It was impossible not to perceive

the identity of thought underlying the representation of this prisoner and the pictures of Tezcatlipoca, the one-footed or lame god—Xonecuilli the Ursa Minor. It was moreover of extreme interest to note the existence of traditional records, preserved in the native myths, of changes in the relative positions of celestial bodies and of the Ursa Major in particular.

Whilst dwelling upon the striking analogy existing between the representations of Tezcatlipoca held fast by the symbol of the North and the prisoner attached to what is described either as “a temalacatl, stone whorl” or “an image of the sun,” my gaze fell on a small model of the calendar-stone of Mexico, hanging above my desk, and rested on the symbol Ollin in its centre. The learned [pg 013] director of the National Museum of Mexico, Señor Troncoso (Anales del Museo Nacional, vol. II), had expressed his view that this symbol was an actual figurative representation of the annual apparent movements of the sun, and recorded its positions at the solstitial and equinoctial periods. I had, moreover, submitted a drawing of this same figure to the eminent English astronomer, Prof. Norman Lockyer, and he had corroborated this view and established its correctness. On the other hand, I had long noted that the *Ollin* was usually figured with an eye, the symbol for star, in its centre (fig. 2, nos. 1, 3), and had also paid particular attention to the fact that the Mexicans had conceived the ideas of two suns, a young day sun and an ancient night or black sun. In the B. N. MS., on the mantas worn at their respective festivals, the day sun is depicted in a somewhat fanciful manner, in blue and red on a white field. The black sun is, however, represented in classical style, so to speak, as on the sculptured calendar-stone, with four larger and four smaller V-shaped rays issuing from it. In this connection it is well to recall here that the Mexicans had no specific name for the sun, beyond *Tonatiuh*, which merely means “that which sheds light” and could equally apply to the stars. In the picture-writings the image of the sun was employed to convey the

word *Teotl*. But we find that this word, assumed to be equivalent to their “Dios” by the Spaniards, was also a reverential title bestowed upon chieftains and superiors and was constantly employed in the composition of words to signify something divine, supremely beautiful, etc. Whilst I was pondering on the possibility that the symbol *Ollin* might have represented the movements of the luminaries of night as well as the orb of day, my attention became fixed upon the four numerals in each of the ends of the [pg 014] symbol and I was struck by a certain resemblance between their positions and those of the four stars which form the body of the bear in the constellation of Ursa Major. It was then that it occurred to me, as mentioned in the opening sentence of this introduction, to look at the familiar constellations, with a view to verifying the resemblance noted above. As my gaze sought “the pointers” in Ursa Major, and then mechanically turned to Polaris, I thought of some passages I had recently re-read, in Professor Lockyer's Dawn of Astronomy, realizing that his observations, dealing with the latitude 26° (taking Thebes as representing Egypt), could equally apply to Mexico as this country stretches from latitude 15° to 31°.

Figure 2

“The moment primitive man began to observe anything, he must have taken note of the stars, and as soon as he began to talk about them he must have started by defining, in some way or other, the particular star he meant.... Observers would first consider the brightest stars and separate them from the dimmer ones; they

would then discuss the stars which never set (the circumpolar constellations) and separate them from those which did rise and set. Then they would naturally, in a northern clime, choose out the constellation of the Great Bear or Orion, and for small groups, the Pleiades (*op. cit.* p. 132).... A few years' observation would have appeared to demonstrate the absolute changelessness of the places of the rising and setting of the same stars. It is true that this result would have been found to be erroneous when a long period of time had elapsed and when observation became more accurate, but for hundreds of years the stars would certainly appear to represent fixity, while the movements of the sun, moon and planets would seem to be bound by no law ... would appear erratic, so long as the order of their movements was not known."

The reflection that Ursa Major was probably the first constellation which made any deep impression upon the mind of prehistoric man in America, as elsewhere, lent an additional interest to the star-group, as I concentrated my mind upon its form and endeavored to imagine it in four equidistant positions, corresponding to the numerals in the symbol *Ollin* of the calendar-stone of Mexico (fig. 2, no. 2).

I succeeded in obtaining, in succession, mental images of the constellation in four opposite positions. This effort led to an unforeseen result which surprised me. In a flash of mental vision I perceived a quadrupled image of the entire constellation, standing [pg 015] out in scintillating brilliancy from the intense darkness of the wintry sky (fig. 3, no. 3). At the same moment I saw that it bore the semblance of a symmetrical swastika of giant proportions. This fact, so unexpectedly realized, gave rise to such an absorbing train of new ideas and interpretations of the data I had accumulated, that I left my window, on that memorable night, with a growing perception of the deep and powerful influence the prolonged observation of Polaris and the circumpolar constellations would naturally have exerted upon the mind of primitive man.

Deeply impressed with the striking resemblance between the composite image of Polaris, Ursa Major, and certain forms of the swastika, I started on a fresh line of investigation, and devoted myself to the study of primitive astronomy and its influence upon the intellectual development of mankind in general and the American races in particular. After having worked, during thirteen years, without any preconceived ideas about the ancient Mexican civilization and without formulating any general conclusion concerning it, I saw all the knowledge I had slowly acquired fall into rank and file and organize itself into a simple and harmonious whole.

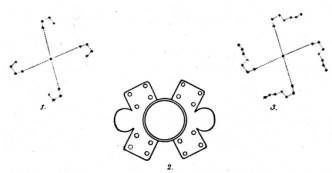


Figure 3

Realizing this I perceived how, with the origin of the swastika, I had found the origin of the set of primeval ideas which had governed the human race from its infancy and which, in Mexican and Central American civilizations, ultimately developed into their ingenious system of government and social organization.

[pg 016]

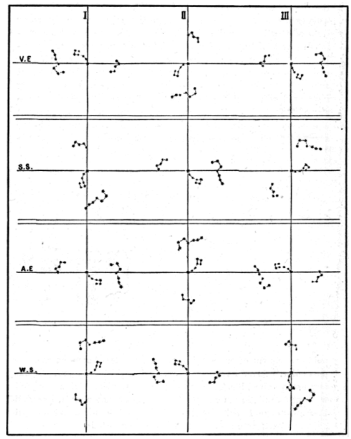


Plate I. Chart of the Polar Constellations.
I: Just After Sunset. II: Midnight. III:
Just Before Sunrise.

[pg 017]

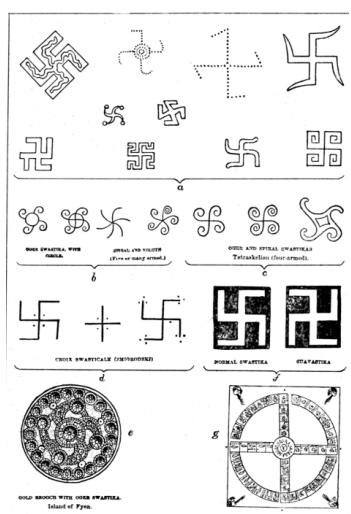


Plate II. Various Forms of the Swastika.

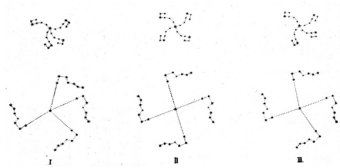


Figure 4

The sequel to the above episode was that, with the aid of my movable star-chart, I made the following notes of the apparent positions of the circumpolar constellations at the times of sunrise, midnight and sunset, choosing the periods of the solstices and equinoxes in order to obtain an exact division of the year (pl. I). Whilst studying these I realized that the midnight position was the only stable one, since the actual visibility of the constellations before dawn and after dusk would be subject to considerable variation, according to seasons, latitudes and atmospherical conditions. Having noted these positions, I next combined them separately, obtaining the remarkable results given in fig. 4. The combined midnight positions of the Ursa Major or Minor, at the four divisions of the year, yielded symmetrical swastikas, the forms of which were identical with the different types of swastika or cross-symbols (the normal, ogee and volute, etc.), which have come down to us from remote antiquity and are reproduced here for comparison (pl. II, *a-f*). Reflection showed me that such composite pictures of the Ursa constellations constituted an exact record of their annual rotation, and afforded a perfect sign for the period of a year. I moreover perceived how the association of rotatory motion with the advance of time, and its division into fixed periods or cycles, would be the natural outcome of the recognition of the annual rotation of the star-groups.

The Calendar-Swastika, or cross of ancient Mexico (pl. II, *g*) constitutes an absolute proof of the native association of the cross-symbol with the ideas of rotatory motion and the progress of [pg 019] time, and furnishes an indication that, in an analogous manner, the swastika may have been primarily and generally employed by primitive races, as a sign for a year or cycle. A close scrutiny of the respective forms of the crosses yielded by Ursæ Major and Minor shows that the normal swastika and suavastika may be explained as the separate representations of the two constellations—the angular break in the outline of Ursa Major suggesting the direction of the bend to the right of the arms of the normal swastika, whilst the form of Ursa Minor obviously suggests the bend to the left which is characteristic of the suavastika.

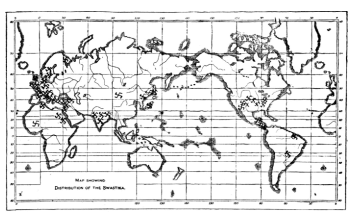


Figure 5

My growing conviction that the Bear constellations had furnished the archetype of the different forms of swastika and cross-symbols, found subsequent support when I referred to the map showing the geographical distribution of the ancient symbol published by Prof. Thomas Wilson in his valuable and comprehensive monograph on the subject,[1] to which I am indebted for much information [pg 020] and several illustrations (pl. II, *a-f*, etc.). The map, reproduced here (fig. 5), proves that, with two exceptions, which can be attributed to a migration southward, the employment of the swastika has been confined to the northern hemisphere, *i. e.*, precisely to

that portion of our globe from which the circumpolar constellations are visible.

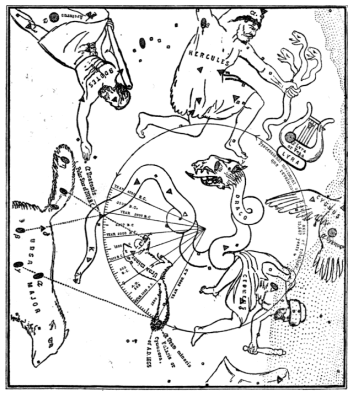


Figure 6. Star-Map, Representing The Precessional Movement Of The Celestial Pole From The Year 4000 B.C. To The Year 2000 A.D. (*From Piazzi Smyth.*)

The interesting possibility of being able to determine, approximately, the date in the world's history when the swastika began to be employed as a symbol, next occurred to me. Piazzi Smyth's star-map, discussed and reproduced in Professor Lockyer's work already cited (fig. 6), illustrates the changes of direction of the [pg 021] earth's axis in space, which gives rise to what is called the precession of the equinoxes and has a cycle of something like 25,000 or 26,000 years. Reference to this star-map (fig. 6) proved that the observations, leading to the adoption of the swastika as a symbol, could not possibly have been made until after Ursa Major had become circumpolar, about 4,000 B.C. At that period, when Draconis was the pole-star, the circle described about it by Ursa Major was considerably closer than it is at present. The accompanying illustrations (fig. 7), subject to correction, demonstrate the relative distance of the

constellation about 2,770 B.C., 1,800 B.C., and 2,000 A.D., and show how much more strikingly impressive the polar region of the heavens was in remote antiquity.

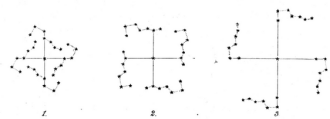


Figure 7.

Let us now briefly review some of the ideas which would naturally suggest themselves to the mind of the primitive observer, after he had recognized the apparent immovability of the polar-star, concentrated his attention upon this feature, and contrasted it with the varying motions of all other celestial bodies in general and with the rotation of the circumpolar star-groups in particular.

This recognition would lead to his gradually learning to utilize Polaris as a means of ascertaining direction. His appreciation of valuable guidance rendered in perilous wanderings would develop feelings of trust, dependence and gratitude towards the one changeless star which permanently rendered valuable services and under whose guidance difficult and essential nocturnal expeditions could be safely undertaken. Superiority and, eventually, extensive supernatural power would more and more be attributed to it, as knowledge was gained of the laws of motion from which it alone seemed to be exempt. This exemption would cause it to be viewed as superior to all other heavenly bodies and even to the sun, and it is easy [pg 022] to see how this idea, becoming predominant, might cause the cult of the pole-star to disestablish an organized sun-cult amongst some tribes. Historical evidence, to which I shall revert more fully proves, indeed, that a native American ruler and reformer actually employed the following reasoning in order to

convert his council and people from the worship of the sun to that of a superior divinity which could have been no other but Polaris: “It is not possible that the sun should be the God who created all things, for if so he would sometimes rest and light up the whole world from one spot. Thus it cannot be otherwise but that there is someone who directs him and this truly is the true Creator.”

These words shed a whole flood of light upon primitive religious ideas at an early stage of development. They prove that the association of repose and immovability with the supreme power signified a radical change of thought, based upon prolonged astronomical observation, and indicated intellectual advancement. Attempts to render the new idea objective, to express it and impress it upon the multitude, would naturally end in the production of images of the supernatural power, representing or typifying immovability, changelessness, strength combined with absolute repose.

It is thus rendered evident what a deep significance may be embodied in the rudest images of supernatural beings in attitudes of repose, since a prolonged course of astronomical observation and reasoning may have preceded their production.

Simultaneously with the recognition of Polaris as an immutable centre of axial energy, the rotatory movement of Ursa Major must have excited interest and observation. It was inevitable that star-gazers should gradually recognize a constant agreement between certain positions of Ursa Major and Cassiopeia after dusk for instance, and the annual recurrence of rain, verdure and bountiful food-supplies.

The members of a tribe who, more observant than others, had learned to associate certain positions of these constellations with the seasons and, as a consequence, were able to decide when expeditions to distant localities, in quest of game or fruit, might be successfully

undertaken, would naturally assume leadership and command obedience and respect.

The sense of responsibility, superiority and, possibly, rivalry would act upon such individuals as a powerful incentive to further [pg 023] observation and thought and it is evident that, as their mental faculties expanded and one generation transmitted its store of accumulated knowledge to the next, a regular caste of astronomer-leaders would develop, with a tendency to conceal the secrets of their power from the ignorant majority. A broken line, carved on a rock by one of these primitive observers, would have constituted a valuable secret note of the position of Ursa Major on a memorable occasion and would be looked upon as a mystic or magical sign by the uninitiated. A series of such inscriptions might represent the store of astronomical knowledge accumulated by several generations of observers, and it is interesting to recognize that such astronomical records as these were probably the first which men were impelled to perpetuate in a lasting form; since it was absolutely necessary that they should be permanently available for reference at prolonged intervals of time. What is more, the mere fact of being obliged to refer to these inscriptions would cause the astronomers to reside permanently in one locality. The habit of consulting the prophet or oracle before undertaking important steps, involving the welfare of the tribe, would gradually cause the rocks or cavern in which he resided to be invested with a certain sacredness.

It is thus evident that the first men, who rudely scratched the outline of Ursa Major or Minor on a rock, took what was probably one of the most momentous steps in the history of the human race, and it is easy to see how a variety of combinations of circumstances would have led many men, in widely-separated localities and at different periods of the world's history, to perform precisely the same action. In some cases, under favorable surroundings, the rudimentary attempt would mark the starting point

for a long line of patient observation and study, which would inevitably lead to the creation of centres of intellectual growth, to the association of the different positions of the constellation with the seasons and culminate in the habitual employment of a swastika as the sign for a year, or cycle of time.[2]

[pg 024]
The idea of rotation, associated with calendar signs and periods, finds its most striking and convincing exemplification in the following description of the ancient Mexican game "of those who fly," translated from Clavigero (op. et ed. cit. p. 236). This performance, which furnished a diversion to the Spaniards after the Conquest, had evidently been, originally, connected with religious ideas. "The Indians selected a tall, stout and straight tree, and, lopping off its branches, planted it firmly in the centre of the great square" (which was always situated in the centre of the city and had four roads leading to it from the four quarters). "On the summit they placed a large cylinder of wood, the shape of which was compared by the Spaniards to that of a mortar. Four strong ropes hung from this and supported a square frame composed of four wooden beams. Four other ropes were fastened by one end to the pole itself and wound around it thirteen times. Their loose ends were passed through holes in the middle of each beam and hung from these. Four Indians, masked as eagles or other birds, ascended the pole singly, by means of certain loops of cord, and mounting on the cylinder they performed in this perilous position a few dance-like movements. Each man then attached himself to the loose end of one of the hanging ropes, and then, with a violent jerk and at the same moment, the four men cast themselves into space from their positions on the beams. This simultaneous movement caused the frame and cylinder to revolve and uncoil the ropes to which the men were fastened and these descended to the ground after performing a series of widening circles in the air. Meanwhile a fifth individual, who had mounted the wooden cylinder [pg 025] after the others, stood on this

as it revolved, beating a small drum with one hand, whilst he held a banner aloft with the other." Whilst it is obvious that this peculiar and dangerous performance clearly symbolized axial rotation, typified by the revolving pivot and the four men in aërial motion, its full meaning and intention are only made clear by the following explanation recorded by Clavigero. "The essential point in this game was to calculate so exactly the height of the pole and the length of the ropes, that the men should describe precisely thirteen circles each before reaching the ground, so as to represent the cycle (of $4 \times 13 =$)52 years."

This passage constitutes absolute proof that the Mexican Calendar system was intimately associated with axial rotation and ideas such as could only have been derived from observation of Polaris and of the circumpolar constellations. The game itself was a beautiful and well-conceived illustration of the flight of time, typified by the aërial circles performed by the men masked as birds, and of its methodical division into fixed periods.

Leaving the subject of the calendar for the present we must revert to my tables recording the apparent annual and nocturnal axial rotation of the circumpolar constellations.

Whilst studying these the reflection naturally arose, that the people who observed Ursa Major must have paid equal attention to Cassiopeia and noticed that these constellations ever occupied opposite positions to each other as they circled around the pole. Dwelling on the fact that in ancient Mexico Ursa Major was associated with an ocelot, I remembered the many representations in which an ocelot is represented as confronting an eagle, usually in mortal combat. Mexican war-chiefs were classed into two equally honorable grades, designated as the "ocelots and the quauhtlis, *i. e.*, eagles." The constellation of Cassiopeia presents to me, a marked resemblance to the image of a bird with outspread wings,

whose head is turned toward Polaris. The fact that when this star-group seems to be above, Ursa Major seems to be below, and *vice versa*, would obviously suggest the idea of an eternal combat between two adversaries who alternately succumbed and resuscitated. It was interesting on reasoning further, to note that once the above idea had taken root it must have been impossible not to associate in course of time, the quadruped and the bird with the elements to which they seemed to pertain, and gradually to conceive the idea of an everlasting antagonism between the powers of [pg 026] the sky and of the earth, or light and darkness, and other opposites which suggested themselves naturally, or were artificially created, by the fertile mind of man. In this connection it should be observed that the mythical adversary of Tezcatlipoca, the ocelot, designated as Ursa Major, is Huitzilopochtli, whose idol, in the Great Temple of Mexico, represented him masked as a hummingbird (see Atlas Duran). The special reason why this bird became associated with the god is explained by the following passage in Gomara (Histoire générale des Indes. Paris, 1584, chap. 96, p. 190): “This bird died, or rather fell asleep in the month of October and remained attached by its feet to a twig. It awakened again in April when the flowers blossomed. For this reason, in the language of the country it is named Huitzitzilin, the resuscitated.” We therefore see that whilst it is stated in the myth that the ocelot arose again after having been cast down from the sky by Huitzilopochtli, the very name of the latter betokened that the bird-god had also only just “resuscitated” from a presumably similar defeat.

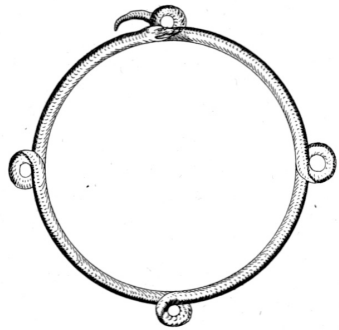


Figure 8.

As one and the same object may suggest several resemblances at the same time or consecutively, and thus give rise to a group of associations around a single figure, I venture to point out that the zigzag form of Cassiopeia may well have been compared to forked lightning and caused the idea of lightning and thunder to become indissolubly connected with the conception of a great celestial bird. Again there is the possibility that the same star-group may have more strikingly suggested, to other people, the idea of the winding body of a serpent describing a perpetual circle around a central star. In Mexico, as elsewhere, we find the serpent closely associated with the idea of time. It is represented as encircling the calendar wheel published by Clavigero (fig. 8). Four loops, formed of its body, mark the four divisions of the year. Twin serpents, whose heads and tails almost meet, are sculptured around the famous calendar-stone of Mexico. Four serpents whose bent [pg 027] bodies form a large swastika and whose heads are directed towards a central figure, are represented in the Codex Borgia in association with calendar-signs (fig. 9, *cf.* Féjérvary, p. 24). I shall have occasion to refer in detail to Mexican serpent-symbolism further on.

Meanwhile I would submit the interesting results obtained on combining the positions apparently assumed by the circumpolar constellations during a single night.

The tables exhibit four composite groups representing the positions at the solstitial and equinoctial periods (fig. 10).

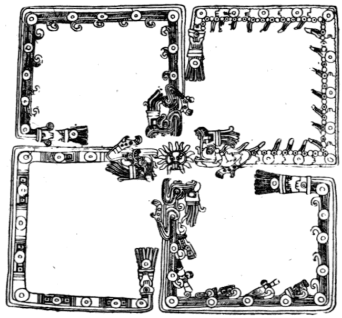


Figure 9.

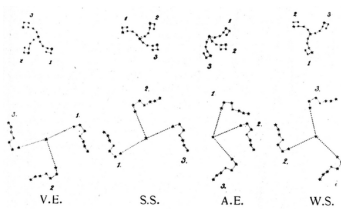


Figure 10.

The night of the winter solstice, the longest of the year, yielded alone a symmetrical figure. It resembled the well-known triskelion, the companion-symbol of the swastika (figs. 10 and 11). Just as this had proved to be the most natural of year symbols, so the triskelion revealed itself as a natural sign of the winter solstice, the period recognized and celebrated by most inhabitants of the [pg 028] northern hemisphere as the turning-point of the year. In a climate like that of Mexico and Central America, however, where the year divided itself naturally into a

dry and a rainy season, it is evident that the winter solstice would be less observed and that the ardently-desired recurrence of the rainy season, after a long and trying period of drought, should be regarded as the annual event of utmost importance. Indeed, if carefully looked into, the entire religious cult of these people seems to express but one great struggling cry to the God of Nature for life-giving rain, and a hymn of thanksgiving for the annual, precious, but uncertain gift of water.

Figure 11.

To these supplicants the winter solstice betokened little or nothing and it is not surprising to find no proofs of the employment of the triskelion as a sacred symbol in ancient Mexico. On the other hand, it has been traced by Mr. Willoughby on pottery from Arkansas, and in Scandinavia, where the circumpolar constellations have doubtlessly been observed from remote times, and the winter solstice has ever been hailed as the herald of coming spring, the triskelion is often found associated with the swastika.

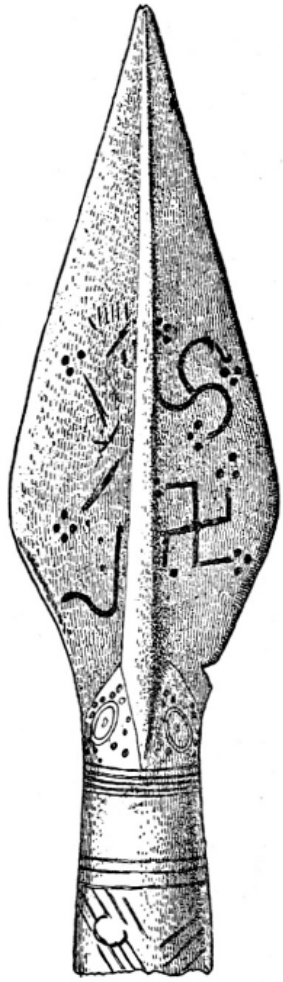


Figure 12.

I am indebted to Prof. Thomas Wilson's work already cited for the two following illustrations of objects exhibiting this association. The first is a spearhead found in Brandenburg, Germany (fig. 12). The second is a bronze brooch from Scandinavia, to which I shall presently revert (fig. 13). It exhibits, besides the [pg 029] triskelion, swastika and circle, the S-shaped figure which was, as I shall show further on, the sign actually

employed by the ancient Mexicans and Mayas as the image of the constellation Ursa Minor, whose outline it indeed effectually reproduces.

Before referring to the Mexican and Maya representations of the star-group, I would next demonstrate that the sacred numbers of Mexico, and of other countries situated in the northern hemisphere, coincide exactly with the number of stars in the circumpolar constellations themselves and in simple combinations of the same.

Ursa Major and Ursa Minor each contains seven stars, and the number seven is the most widely-spread sacred number. Ancient traditions record that the race inhabiting Mexico consisted of seven tribes who traced their separate origins to seven caves, situated in the north. In memory of these, at the time of the Conquest, there were seven places of sacrifice in the city of Mexico. I shall recur to the number seven further on, in discussing the native social organization, and now direct attention to the five stars of Cassiopeia and to the fact that the combination of the stars in this constellation with Polaris and Ursa Major yields the number thirteen. This result is specially interesting since the entire Calendar-system of Mexico and Yucatan is based on the combination of the numerals $13 + 7 = 20$, the latter again being 4×5.

Figure 13.

On the other hand the same number, 13, is also obtained by the combination of the Ursæ star-groups with Polaris. The number 5 is constantly yielded by Cassiopeia and the four-fold repetitions of the groups supply the suggestion of the number 4. The combination of Ursa Minor and Cassiopeia yields 12. The accompanying figure exhibits swastikas composed of Ursa Minor accompanied by Ursa Major and Cassiopeia separated and combined (fig. 14). I next direct attention to the peculiar difference in the numerical values of the Ursæ swastikas.

In the first, the central star, surrounded by four repetitions of the seven-star constellation, yielded a total of twenty-nine stars—4x5 + 9. [pg 030] Further combinations will be seen by a glance at the Ursa Major

swastika (fig. 4). The analysis of the Ursa Minor swastika is not so simple and occasions a certain perplexity.

When I had first combined the four positions of this constellation, I had, naturally, and without further thought, figured Polaris but once, as the fixed centre, whereas I had repeated the other stars of the compact group four times. It was not until I began to count the stars in the swastika that I realized how I had, unconsciously, made one central star stand for four, and thus deprived the composite group of the numerical value of three stars. On the other hand, if I repeated the entire constellation four times, I obtained a swastika with four repetitions of Polaris in the middle. In this way, however, Polaris became displaced, and the idea of a fixed centre was entirely lost. A third possible method of composing the swastika was to allow one central star for each cross-arm. But this gave two central stars, each of which would represent two stars. Unless enclosed in a circle and considered as a central group by themselves, the four and the two repetitions of Polaris could not convey the idea of a pivot or fixed centre. The three respective numerical values obtained from these experimental combinations were $4\times6+1=25$, $4\times7=28$, and finally 2×13 or $4\times6+2=26$. In each swastika the central star forcibly stood for and represented two or four (fig. 15).

Figure 14.

In the triskelions the same perplexity arose: if Polaris was repeated, the idea of a fixed centre was lost (fig. 15); if figured singly, it nevertheless necessarily and inevitably stood as an embodiment of three stars. Reasoning from

my own experience, I could but perceive, in the foregoing facts, a fruitful and constant source of mental suggestions, the natural outcome of which would be the association of the central star with an enhanced numerical [pg 031] value, and a familiarity with the idea of one star being an embodiment of two, three or four.

Figure 15.

As the evolution of religious thought and symbolism progressed, this idea would obviously lead to the conception of a single being uniting several natures in his person. In this connection it is certainly extremely interesting to find the serpent associated with the Calendar in Mexico and Yucatan, its Nahuatl name being homonymous for twin, *i. e.* two, and the Maya for serpent, *can* or *cam*, being homonymous for the number four. The serpent was, therefore, in both countries the most suggestive and appropriate symbol which could possibly have been employed in pictography, to convey the idea of dual or quadruple natures embodied in a single figure.[3] Added to this the circumstance that, to the native mind, the serpent, upon merely shedding its skin, lived again, we can understand why the ancient Mexicans not only employed it as a [pg 032] symbol of an eternal renewal or continuation of time and of life, but also combined it with the idea of fecundity and reproductiveness. In Yucatan where the Maya for serpent, *can*, is almost homonymous with *caan* = sky or heaven and the adjective *caanlil* = celestial, divine, the idea of a divine or celestial serpent would naturally suggest itself. It is therefore not surprising to find, in both countries, the name of *serpent* bestowed as a title upon a supreme, celestial embodiment

of the forces of nature and its image employed to express this association in objective form. In Yucatan one of the surnames of Itzamná, the supreme divinity, was Canil, a name clearly related to *caanlil* = divine and *can* = serpent.

In Mexico the duality and generative force implied by the word "coatl" are clearly recognizable in the native invocations addressed to "Our lord Quetzalcoatl the Creator and Maker or Former, who dwells in heaven and is the lord of the earth [Tlaltecuhtli]; who is our celestial father and mother, great lord and great lady, whose title is Ome-Tecuhtli [literally, two-lord = twin lord] and Ome-Cihuatl [literally, two-lady = twin lady"] (Sahagun, book VI, chaps. 25, 32 and 34).

The following data will suffice to render it quite clear that the Mexicans and Mayas employed the serpent as an expressive symbol merely, signifying the generative force of the Creator to whom alone they rendered homage. It is no less an authority than Friar Bartholomew de las Casas who maintained that "in many parts of the [American] Continent, the natives had a particular knowledge of the true God; they believed that He created the Universe and was its Lord and governed it. And it was to Him they addressed their sacrifices, their cult and homage, in their necessities..." (Historia Apologetica, chap. 121).

Friar Bartholomew specially adds that this was the case in Mexico according to the authority of Spanish missionaries and no one can doubt that this was the case when they read that in the native invocations, preserved by Sahagun, the supreme divinity is described as "invisible and intangible, like the air, like the darkness of night," or as the "lord who is always present in all places, who is [as impenetrable as] an abyss, who is named the wind [air or breath] and the night." "All things obey him, the order of the universe depends upon his will—he is the creator, sustainer, the omnipotent and omniscient." He is termed "the father and mother of all," "the great god and the great goddess," "our lord and protector [pg 033] who is

most powerful and most humane,"—"our lord in whose power it is to bestow all contentment, sweetness, happiness, wealth and prosperity, because thou alone art the lord of all things." One prayer concludes thus: "Live and reign forever in all peace and repose thou who art our lord, our shelter, our comfort, who art most kind, most bountiful, invisible and impalpable!" (Sahagun, book VI, on the rhetoric, moral philosophy and theology of the Mexicans, chaps. 1-40). It is related that, in gratitude for the birth of a son, the ruler of Texcoco, Nezahual-coyotl erected a temple to the Unknown God.... It consisted of nine stories, to symbolize the nine heavens. The exterior of the tenth, which formed the top of the nine other stories, was painted black with stars. Its interior was encrusted with gold, precious stones and feathers and held "the said god, who was unknown, unseen, shapeless and formless" (Ixtlilxochitl, Historia Chichimeca ed. Chavero, p. 227; see also p. 244). A passage in Sahagun (book VI, chap. VII) states that "the invisible and imageless god of the Chichimecs was named Yoalli-ehecatl [literally, night-air or wind], which means the invisible and impalpable god ... by whose virtue all live, who directs by merely exerting his wisdom and will." In the Codex Fuenleal (chap. 1) the remarkable title of "wheel of the winds = Yahualliehecatl," is recorded as "another name for Quetzalcoatl." This undeniably proves that the Mexicans not only figured the Deity by the image of a serpent but also thought of him as a wheel which obviously symbolized centrical force, rotation, lordship over the four quarters, *i. e.*, universal rulership.

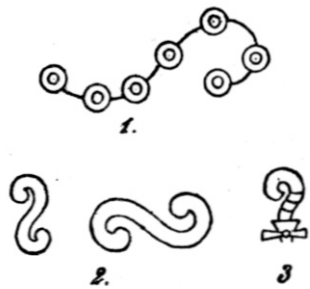


Figure 16.

Returning from these ideas of later development to the primitive source of their suggestion, let us now examine the native picture of Xonecuilli, Ursa Minor, preserved in the unpublished Academia MS. of Sahagun's Historia, in Madrid (fig. 16, no. 1). It is an exact representation of the star-group. The fact that the seven stars are figured of the same size in accurate relation to each other, either proves that the eyesight of the native astronomers was extremely keen and their atmosphere remarkably clear, or that possibly, the minor stars of the group were more brilliant in ancient times, than they are now. Astronomers tell us, for instance, that [pg 034] as late as the seventeenth century the star in the body of Ursa Major nearest to the tail, was as bright as the others, while it is now of the fourth magnitude only.

It must be admitted that the shape of the constellation resembles an S. An SS sign is mentioned by Sahagun (Historia, book VIII, chap. 8) as occurring frequently, as a symbolical design on native textile fabrics. It figures as such, in the black garments of the female consort of Mictlantecuhtli in the Vienna Codex, pp. 23 and 33. He denounces it as suspect and hints that it was intimately connected with the ancient religion.

S-shaped sacred cakes, called Xonecuilli, were made during the feast of Macuilxochitl = five flowers, and are figured (fig. 16, no. 2) in the B. N. MS. (p. 69) with a

four-cornered cross-shaped cake of a peculiar form (fig. 20, III), which is found associated with five dots or circles in the Codices and also with the Tecpatl-symbol of the North (fig. 20, I and II).

A recurved staff, which is held in the hand of a deity in the B. N. MS. is designated in the text as a *xonoquitl* (fig. 16, no. 3). Amongst the insignia of the "gods," sent as presents by Montezuma to Cortés upon his landing at Vera Cruz, were three such recurved "sceptres," the descriptions of which I have collated and translated in my paper on the Atlatl or Spear-thrower of the Ancient Mexicans (Peabody Museum Papers, vol. 1, no. 3, Cambridge, 1891, p. 22). In this work I presented my reasons for concluding that these recurved sceptres were ceremonial forms of the atlatl. I now perceive that they were endowed with deeper significance and meaning. The Nahuatl text of Sahagun's Laurentian MS. of the Historia de la Conquista (lib. XII, chap. IV) records the name of one of these staffs as "hecaxonecuilli," literally "the curved or bent over, air or wind," and describes it as made of "bent or curved wood, inlaid with stars formed of white jade = chalchihuite." This passage authorizes the conclusion that four representations in the B. N. MS. of black recurved sceptres, exhibiting a series of white dots, are also heca-xonoquitl, inlaid with stars, and that all of these are none other but conventional representations of the constellation Xonecuilli, the Ursa Minor. In each case the deity, carrying the star-image, also displays the ecacozcatl the "jewel of the wind," the well-known symbol of the wind-god. In one of these pictures (p. 50) he not only bears in [pg 035] his hand the star-image, but also exhibits a star-group on his head-dress, consisting of a central-star, on a dark ground, surrounded by a blue ring. Attached to this against a dark ground, six other stars are depicted, making seven in all. In connection with this star-group it is interesting to note that the hieroglyph, designated by Fra Diego de Landa as "the character with which the Mayas began their count of days or calendar and named Hun-Imix," furnishes a case of an

identical though inverted group (Relacion de las Cosas de Yucatan, ed. B. de Bourbourg, p. 237). Enclosed in a black ring, the glyph displays, above, a large black dot with six smaller ones grouped in a semicircle about it, and below, four perpendicular bars.

Subject to correction, I am inclined to interpret this glyph as a hieratic sign for the constellation Ursa Minor and its four movements, and to consider it as furnishing a valuable proof of the origin of the Maya Calendar.

The seemingly inappropriate procedure of figuring shining stars by black dots actually furnishes the strongest proof that a star group is thus represented; for, in the Maya language, “ek” is a homonym for star and black, and a black spot was, in consequence, the most expressive sign for a star. This fact affords a valuable explanation of the reason why the ocelot, whose skin is spotted with black, was employed as the figure of the nocturnal sky, and clearly proves that the Mexicans adopted this symbol and its meaning from the Mayas.

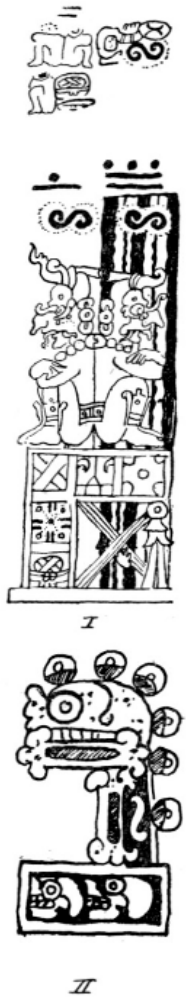


Figure 17.

We will now revert to the S-shaped sign. Its association with images of star is further exemplified in Mexican Codices. It occurs on the wall of a temple, in combination with symbols for stars and the North-Mictlan, which consist in this case, of skulls and cross-bones (fig. 17, II).

In the Dresden Codex, of Maya origin, there is an extremely important page on which the S-sign occurs in

connection with twin deities, besides rain and cross symbols (fig. 17, 1). A careful examination [pg 036] of the group shows that one of the seated figures is accompanied by a downpour of water (painted blue in the original), besides the S-symbol which is also repeated above the head of his companion. Higher up, on the same page, the S occurs again in a group of glyphs alongside of twin-seated figures. These, as well as the single-seated form beneath them, have an eye or a large black spot surmounted by dots instead of a head (Vocabulaire de l'écriture hiératique de Yucatan, p. 38). Monsieur Léon de Rosny has identified this figure, which also occurs in the Codex Troano, as the image of the supreme divinity of the Mayas, of whom more anon, one of whose titles was Kin-ich-ahau, literally Sun-eye lord.

A similar sign consisting of the lower half of a human body seated, with a large eye on its knees is repeated several times in the Borgian Codex. This form is also figured as seated in a temple, without the eye-star, but three stars are on the roof and the S-sign is on the lower wall of the building (Borgian Codex, p. 16).

The above facts demonstrate that, in both MSS. derived from different sources, the same association of ideas is expressed.[4] The S sign appears in connection with twin- or single-seated forms, surmounted by a symbol for star. It is unnecessary for me to lay further stress upon the obvious facts: that the only celestial body which could possibly have been associated with a seated form, suggesting repose, was Polaris. It is, moreover, only by assuming that the sign of the seated star represents the stationary pole-star that its combination in the Codices with the S-sign—Xonecuilli—Ursa Minor, can be understood. I likewise draw attention to the possibility that the S, or single representation of the constellation, may well have been employed as a sign for the summer solstice, [pg 037] since, in some localities, during the shortest night of the year, Ursa Minor may have been visible in one position only. Assuming that the triskelion

was the sign for the winter solstice we should thus have natural signs for the two nights marking the turning-points of light and darkness in the year.

Reverting to fig. 17, I, from the Codex Dresdenis, I draw attention that it furnishes definite proof that the Mayas associated the idea of the immovable seated star with twin deities and that they connected the S-symbol with cross and rain symbols. A striking combination of the latter symbols is represented under the principal seated figures. It consists of a diagonal cross traversed perpendicularly by a band of blue water.

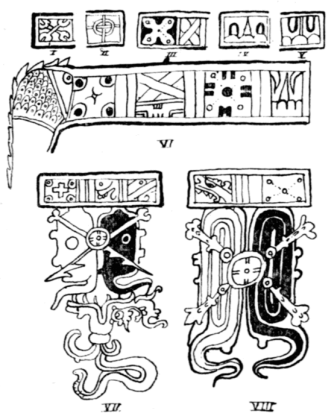


Figure 18.

Further Maya cross-symbols should be cursorily examined here, viz: fig. 18, I, II, III, VI, VII and VIII. They will be found to consist of variations of two fundamental types, often figured alongside of each other and enclosed in a square, or circle. One type consists of two diagonally crossed bars, plain or representing cross bones (I). A rectilinear cross with interlaced circle (II) is also found. The other type exhibits a small cross, square, circle or dot in the centre of the square with a circle in each corner. In

some cases these are united by a series of dots to the central circle and thus form a diagonal cross (VI and VIII) which is sometimes figured as contained in a flower with four petals, such as is also found in Mexican symbolism. The diagonal, dotted cross is frequently combined with four pairs of black bars, placed in the middle of each side of the square, pointing towards the centre. Similar pairs of black bars are figured in the B. N. MS. (p. 3) on the manta of Mictlantecuhtli, with stars, around one of his symbols, a spider. They likewise recur on two of several sacrificial papers on p. 69, amongst which one exhibits a diagonal [pg 038] cross, another the S-sign, while others display realistic drawings of stars with six or eight points.

The pairs of bars figure in the hieroglyph designated by Maya scholars as the sign for *Kin*, the sun, which may be seen in the centre of large diagonal cross-symbols in fig. 18, VII, VIII, from the Dresden Codex: The cross, of fig. 18, VII, is composed of two bones and two arrowpoints, a particularly interesting combination considering that in the Maya a bone is *bak*, an arrow is *kab-cheil* and the name given to the gods of the four quarters "the sustainers of the world," is *Bakab*. It cannot be denied that the phonetic elements of this name occur in the words for bones and arrows which form the cross, symbolic of the four quarters. In fig. 18, VIII, the cross may be composed of four bones, but of this I am not certain. In both cases, however, the crosses rest on a curious double and parti-colored symbol and are associated with serpent signs, in which the open jaws and teeth are prominent features. It is noteworthy that while "can" or "cam" is the Maya for serpent, the word "camach" means jaw. The figure consisting of the upper jaw only of a serpent, in the left hand corner of the band above, fig. 18, VIII, proves, therefore, to be a cursive phonetic sign for serpent.

The parti-colored symbol combined with the cross obviously signifies a duality, such as light and darkness, the Above and the Below and a series of dualities—

possibly the two divisions of the year, the dry and rainy seasons. In Mexico we are authorized by documentary evidence, to give a wider and deeper interpretation to the symbol of duality, for it can be absolutely proven that the Mexican philosophers divided the heavens into two imaginary portions, and respectively identified these with the male and female principles.

In Nahuatl the West was designated as Cihuatlampa, “the place or part of the women.” The souls of the women who had earned immortality were supposed to dwell there, whilst the souls of the men resided in the East. In the appendix to book III of Sahagun's Historia, it is described how, according to the native belief, the souls of the male warriors hailed the daily appearance of the sun above the eastern horizon, and escorted it to Nepantla, the zenith. Here the souls of the women awaited it and assumed the duty of escorting the sun to the western horizon, the symbol for which was calli = the house. The above passage indicates that [pg 039] the native philosophers imagined across the middle of the sky a line of demarcation, separating the portions of the heaven respectively allotted to the male and female souls. For four years after death these souls retained their human form, and then, after passing through nine successive heavens, entered into the celestial paradise where they assumed the forms of different kinds of butterflies and humming-birds. The names of these are enumerated in the Nahuatl text of Sahagun's Laurentian MS. (book III).[5] The symbolism of the humming-bird has already been explained by a passage cited from Gomara's Historia. In this connection it is extremely interesting to find the humming-bird represented in the B. N. MS., as sucking honey from a flower, which is attached by a cord, covered with bird's down, to a bone, the symbol of death.

This peculiar but expressive group of symbols figures only on the head-dresses of deities wearing certain other symbols, amongst which we find the Eca-cozcatl and Eca-xonequilli the image of Ursa Minor, already described.

The merest indication of the association of a circumpolar constellation with the idea of death (disappearance) and resurrection (re-appearance) is of special interest, since the ancient Mexicans located the Underworld, the "place of the dead," in the North. Reflection showed, however, that such an association could only have suggested itself to the minds of star-observers living in southern latitudes, approximate to the equator, or in localities where the northern horizon was more or less shut off from view by intervening mountains. In such places Polaris would appear comparatively close to the boundary-line of the northern sky so that [pg 040] the Ursa constellations and Cassiopeia would be invisible to the local astronomers at midnight during that period of the year when one or the other of the star-groups seemingly stretched between Polaris and the northern horizon. A glance at plate I shows that, at the present time, it is about the period of the autumnal equinox that Ursa Minor would be invisible at midnight, in such localities, while Ursa Major would gradually disappear from view towards midnight, during a certain number of nights, according to latitude and locality, between the autumnal equinox and the winter solstice whilst Cassiopeia would seem to hover above the horizon. The total or partial alternate periodical disappearance of the two most familiar star-groups in the extreme North and their re-appearance after sometimes regular intervals of time could but have made a profound impression upon primitive astronomers and thinkers. Whilst the mere periodical reversal of the positions of Cassiopeia and Ursa Major suggested alternate victory and defeat, the actual though brief and partial disappearance of either star-group must have appeared to be a descent into an under-ground space, associated with darkness and death, followed by a resurrection. In his Cronica, Tezozomoc records, besides Mictlan (the land of the dead), another name for the underworld, Opochcal-ocan, literally, the place of the house to the left. This appellation can only be understood when it is realized that, in a sufficiently southern latitude, an observer, watching the setting of a circumpolar constellation below

the horizon, would always see it disappear to his left and subsequently rise to his right. It is evident that in time this fact would give rise to the association of the left with the underworld, the lower region, and the right with the region above. The native idea of a dwelling in the underworld is further demonstrated by the bestowal of the symbol *calli* = house, upon the western horizon below which all heavenly bodies were seen to disappear. A definite connection between the West and one half of the North being thus established, it would naturally result that a corresponding union of the South and East would be thought of in time, and that these quarters would become associated with the rising of celestial bodies, *i. e.*, with light, the Above, while the opposite quarters became identified with their setting, *i. e.*, with darkness, the Below.

Pausing to review the foregoing conclusions, which I have shown [pg 041] to be the natural and inevitable result of simple but prolonged astronomical studies, observation and plain reasoning, we see that they led to a conception of the Cosmos as divided into seven parts, *i. e.*, the fixed Centre, the pivot, primarily suggested by Polaris who was regarded as the creative, generative and ruling power of the universe; the Four Quarters, seemingly ruled by the central force and associated with the elements; the Above and the Below, suggested by the rising and setting of celestial bodies and associated with light and darkness, sky and earth, etc., etc.

Many of my readers will doubtless recognize at once that the above organization of the Cosmos into the Centre or Middle, the Above and the Below, and the Four Quarters, is precisely that which the Zuñi priests taught Mr. Frank Cushing, when they initiated him into their secret beliefs. Other explorers have recorded the same conception amongst different native American tribes and with these proofs that this set of ideas is still held on our Continent at the present time, I point out the fact that the Maya figures (fig. 18, VII and VIII, from the Dresden Codex)

become perfectly intelligible only when interpreted as representing the Centre, the Four Quarters, the Above and the Below, the latter figured by the dark and light halves of the dual sign. Furthermore, I can demonstrate that this fundamental set of elementary, abstract ideas, furnishing the first principles of organization, is plainly visible under the surface of the ancient Mexican civilization and can be traced not only in Yucatan and Central America, but also in Peru. In these countries, as I shall show, it assumed an absolute dominion over the minds of the native sages, directly suggesting the forms of government and social organization existing at the time of the Conquest and faintly surviving to the present day. It entirely controlled the development of aboriginal religious cult and philosophical speculations and pervaded not only the native architecture and decorative art, but also all superstitious rites and ceremonies, and entered into the very games and pastimes of the people.

The following table presents the bare outline of the scheme of organization exposed in the preceding text. In making it I have, after due consideration, definitely adopted the assignment of the Mexican symbols and colors to the cardinal points given by Friar Duran in the Calendar-swastika contained in his atlas and reproduced (pl. II, *g*).

[pg 042]

Each of these is North; West; South; then East.
Symbols: Tecpatl, Flint; Calli, House; Acatl, Cane; Tochtli, Rabbit.
Colors: Red; Yellow; Blue; Green.
Elements: Fire; Earth; Air; Water.
Warmth; Darkness; Breath; Rain.

Together, North and West are The Below, the "female" region.
TEZCATLIPOCA = MICTLANTECUHTLI.

South and East are The Above, the "male"

region, HUITZILOPOCHTLI.

Combined, they are The Centre.
The dual, generative, ruling and directive Force.
QUETZALCOATL.
The Divine Twin.

Before proceeding to examine more closely the great edifice of human thought which was reared, in the course of centuries, on the ground plan designated above, we must retrace our steps and consider what a deep impression the gradual realization of the changes in the relative positions of Polaris and certain familiar star-groups must have produced upon those who were the first to realize them. Transporting ourselves back to the gray dawn of civilization, let us endeavor to understand the position of the native priest astronomers who, having received and transmitted a set of religious and cosmical ideas, based on the assumption of the absolute and eternal immutability of the centre of the heaven, Polaris, gradually became aware that it also was subject to change, evidently obeyed an unseen higher power and that the ancient order of things, recorded by their predecessors, had actually passed away.

It is obvious that, in all centres of astronomical observation and intellectual culture, a complete revolution of fundamental doctrine or thought must have taken place. A period of painful misgivings and doubt must have been passed through, during which an earnest and anxious observation of all celestial bodies must have seemed imperative and obligatory. Under such circumstances astronomy must have made great strides and astronomical observation become the foremost and highest duty of the intellectual leaders of the native races. Pyramids and temples would be built for the purpose of verifying and recording the positions of sun, moon, planets and stars, and the orientation of these buildings would be [pg 043] carefully planned accordingly. Before

obtaining glimpses of the great evolution of religious thought which progressed on our Continent in olden times, it is well to realize, by means of Piazzi Smyth's map (fig. 6) that the world ceased to possess a brilliantly conspicuous, absolutely immovable pole-star for a prolonged period of time, stretching somewhere between 500 B.C. and 1200 A.D.

The ancient native chronicles record that under “divine” leadership great migrations of tribes took place within this period, the purpose of which was to find a locality which fulfilled certain ardently-desired conditions connected with religious cult.

From various centres of civilization in Mexico and Central America we also hear different accounts of how, at different times, small bands of earnest men, under a leader of superior intelligence, bent on a peaceable but unexplained errand, arrived from distant regions and departed for an unknown goal, after delaying just long enough to teach social organization and impart a higher civilization to the tribes encountered on their passage.

These preserved the memory of the *title* of the leader, in their different languages and he became the culture-hero of their tribe. The fact that, in each case, these sages taught the ignorant tribes the division of time and instituted the calendar, proves that they were skilled in astronomy.

From a sentence uttered by Montezuma to the native astronomers whom he termed “the Sons of the Night,” we learn that it was their custom “to climb mountains” so as “to study the stars.” When one considers the full import of the problems which had to be faced by these ancient sages, who earnestly endeavored to account for the great changes which had taken place in the heavens, within the memory of man, it seems natural to suppose that many an expedition was undertaken for the purpose of acquiring further astronomical knowledge, of finding, perhaps, the immovable star which had been revered in past ages by

the ancestors of the native race.

The cult of Polaris may well have made such expeditions assume the aspect of an imperative religious duty and sacred pilgrimage. As all expeditions across Mexico and Central America would necessarily be limited by the oceans and be fruitless as far as Polaris was concerned, it is obvious that the line of exploration which would be ultimately adopted, would run from south to north and *vice versa*. A small band of enthusiasts, setting forth under the [pg 044] leadership of some of the most advanced thinkers of the time, would undoubtedly have been prepared to devote their entire lives to the object in view. As long as a single member of such an expedition existed, he would be a powerful and active agent in spreading the fundamental set of ideas derived from the observation of Polaris. In lapse of time, by transmission, its influence might travel to a region too remote perhaps for direct contact to have taken place.

If I have indulged in the foregoing line of conjecture and surmise, it is because it is my purpose also to demonstrate, by absolute proof, that the dominion of the above set of ideas extended over Yucatan, Honduras, Guatemala and even reached Peru, where its influence is distinctly visible.

It also extended far to the north in prehistoric times, for certain carved shell-gorgets which have been found in prehistoric graves in Illinois, Missouri and Tennessee exhibit emblems which have definite meanings in the Maya language, spoken in Yucatan.

In order to maintain this assertion I must make a slight digression from the main subject and revert to the myth already cited, recording the casting down from heaven of Tezcatlipoca who arose and ascended again in the form of an ocelot. There are interesting native pictures of this combat and the fall of the ocelot in the Vatican Codex II, p. 34, the Féjérvary Codex, p. 56, and others equally important, representing the fall or descent of an eagle

from the sky, to which I shall revert.

It is moreover recorded by Mendieta (p. 82) that Tezcatlipoca likewise descended or let himself down from the sky by a spider's thread, and in the Bodleian MS. (p. 12) there are two curious pictures one of an ocelot and a cobweb, the other of an ocelot, descending head foremost from stars. The same incident is also pictured in the Vienna Codex (p. 9) where the ocelot, attached by the tail, is connected by a cord with star-emblems.

There are two facts of special interest in regard to the above descent of Tezcatlipoca by a spider's thread. The first is that the title Tzontemoc = "he who descends head foremost" is recorded in the Codex Fuenleal immediately after the name Mictlantecuhtli. The second is that the spider is figured on the manta of Mictlantecuhtli in the B. N. MS. and is sculptured in the centre, above his forehead, in his sculptured image, identified as such by Señor Sanchez (Anales del Museo Nacional III, p. 299) and reproduced here [pg 045] (fig. 19). It represents "the lord of the North or Underworld" descending, head foremost, with a tecpatl or flint knife issuing from his mouth and with outspread limbs, the outlines of which are almost lost under the multitude of symbols which are grouped around him. These symbols are carefully analyzed in my commentary on the B. N. MS. in which I also describe other known carved representations of the same conception and point out analogous pictures in the Maya Codices. The position of the limbs of the descending figure is best understood by a glance at fig. 20, II, from the Dresden Codex. It represents a bar with cross symbols from which a human body is descending. The feet rest on dual symbols, about which more could be written than the scope of the present paper allows. A tecpatl or flint knife, attached to the body by a double bow with ends, may be seen between the dual symbols, and its presence is of utmost importance since it proves that the Mayas also associated the flint with the same figure. Instead of a head the body exhibits a sort of equidistant cross with

four circles. Strange to say, the only analogous cross-figures I have been able [pg 046] to find in all the Codices are those reproduced in fig. 20, I, III, and IV. The latter exhibits a curious, conventionalized flower growing on the top of a pyramid. Its stem and leaves are painted brown and are spotted, resembling the skin of an ocelot. As there is a Mexican flower, the Tigridia, of which the native name was ocelo-xochitl, it may be that it is this which is thus represented. Fig. 20, III, from the B. N. MS., figures as a sacred cake, alongside of the S-shaped xonecuilli breads which were made in honor of Ursa Minor at a certain feast. Finally, fig. 20, I, represents a certain kind of ceremonial staff which is inserted between the two peaks of a mountain—a favorite method employed by the native scribes, to convey the idea that the object figured was in the exact centre. This kind of staff occurs frequently in certain Codices, sometimes being carried by a high priest. It invariably exhibits a flower-like figure with five circles and is surmounted by a tecpatl or flint knife. Without pausing to discuss the subject fully I merely point out here that, collectively, these symbols explain each other and convey the idea of the Centre and the Four Quarters evidently associated with the tecpatl, the symbol of the north, and the ocelot and xonecuilli = Ursa Minor. It is particularly interesting to note that the outspread human body is made to serve as a sort of cross-symbol. A careful study of the conventional representation of the face of "the lord of the North," in fig. 19, gives the impression that it was also used to convey the idea of duality, or the union of two in one. The upper half of the face exhibits a numeral on either cheek under the eyes, seeming to convey the idea of dualities. The two circular ear ornaments, united by a band above the head, and the two nostrils united in one nose, seem to convey the idea of the union of the dualities, whilst the [pg 047] lower half of the face, which is rendered strikingly different to the upper, by being in higher relief and marked with perpendicular lines, exhibits a mouth from which a flint knife, with symbolical eye and fangs carved on it, is hanging like a

tongue. I have already shown that the flint knife was regarded as the sacred producer of the “vital spark.” I may add here that I have also found, in the Codices, tecpatl-symbols on which the curved symbol of air or breath was figured. To my idea the sculptured face is meant to symbolize the dual creator, the dispenser of the spark and breath of life, whilst the human skull on his back betokens that he is also the giver of death. Though unable to enter fully into the subject here, I would nevertheless state that I can produce further data to prove that the human face was frequently employed for a symbolical purpose by the native American races who were evidently entirely under the dominion of the idea of duality, of the Above and Below and the life-producing union of both.

Figure 19.

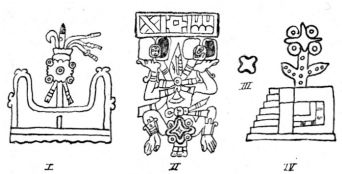


Figure 20.

The question why the spider, named “tocatl” in Nahuatl, should have been adopted as the chief symbol of Mictlantecuhtli, occupied me much until I found the clue to its significance in the Maya language. In this the word for North is *Aman* and the name for “the spider whose bite is mortal,” is *Am*. This striking fact may be interpreted as a positive proof that the spider-symbol, employed by the Mexicans, must have originated in Yucatan, from the mere homonymy of two Maya words.

On the other hand shell-gorgets exhibiting the effigy of a

spider, and obviously intended to be worn with its head turned downwards, have not only been found in Illinois but also in Tennessee and Missouri. On the gorgets from the latter States a cross is carved on the body of the spider (fig. 22, *a*). As certain spiders exhibit cross-markings, it is, of course, possible that it was chosen as a cross-symbol for this reason only, in some localities, just as the butterfly was evidently adopted in Mexico, as an apt image of the Centre and the Four Quarters on account of its shape and its possession of four wings. The conventionalized figure of a butterfly, with a star on its body and four balls, painted with the colors of the quarters, was a sacred symbol which is minutely described by Sahagun and is figured on a manta in the B. N. MS. A glance at its reproduction (fig. 21, no. 13) shows how the form of the insect has been conventionalized so as to resemble the ollin (no. 12) and other Mexican cross-symbols (nos. 2, 4, 11, 14 [pg 048] etc.). The eye or star in its centre, like that in the ollin, and circle (no. 4), signify Polaris; the conventionalized head and antennæ are obviously made to convey the idea of “two in one,” of the Above and Below united in the Centre.

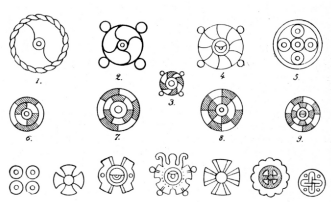


Figure 21.

I venture to suggest that the dragon-fly was employed as a cross-symbol in an analogous manner, on the Algonquin garment preserved at the Riksmuseum, Stockholm, and described by Dr. Hjalmar Stolpe in his admirable study on American art (Amerikansk Ornamentik, Stockholm, 1896,

p. 30). As I shall revert to it later on, I now draw special attention to the circumstance that instead of the cross, on a spider-gorget from Tennessee, there is a round hole which, when the shell-disc is held aloft, lets a ray of light shine through and furnishes an apt presentation of a star. This and the cross furnish analogies to the Mexican and Maya symbols of Polaris which are too obvious to need to be emphasized. Nor do these gorgets alone furnish an undeniable indication that an identical symbolism extended from Yucatan to Illinois. Other gorgets, also figured in Mr. Wm. H. Holmes' monograph “Art in Shell,” several of which are in the Peabody Museum, from the stone graves in Tennessee, exhibit variously carved representations of a serpent. In all specimens the identical idea is carried out: the eye of the serpent forms the centre of the design on the disc and [pg 049] four circles on the body of the reptile, or four solid bars, interrupting a hollow line encircling the central motif, emphasized a division of the disc into four equal parts. The idea of the Serpent in repose, the Centre and the Four Quarters is thoroughly carried out and the true meaning of the design is only appreciated by the light of the Maya and Mexican symbolism which has already been so fully discussed.

Figure 22.

The third Tennessee gorget reproduced here (fig. 22, *c*), from Mr. Holmes' work, exhibits a combination of numerals which is particularly interesting if confronted with the sacred numbers of the Mexicans and Mayas. From a central circle three curved lines issue in a fashion resembling those on fig. 21, no. 2, but the fact that the

circular band exhibits seven double circles and the outer edge is divided into thirteen parts, is of special moment. Still another design, on a shell-gorget from Tennessee, not only exhibits the peculiarity, pointed out by Mr. Holmes, of a square with loops, resembling certain figures in Mexican Codices, but also other significant details which I shall point out (fig. 22, *b*). The cross in the centre occupies the centre of a star with eight rays and the four birds' heads at the sides of the square illustrate rotation from right to left. I am inclined to view in this gorget an emblem of Polaris with Cassiopeia in rotation around it, figured as a bird, but whether this is the case or not it must be conceded that it is indeed remarkable to find a set of symbols, consisting of the spider, the cross, the serpent and the bird, carved on prehistoric gorgets found in the United States whilst the deep meaning of these identical symbols is furnished by Maya and Mexican records. I venture to remark here that no more expressive and appropriate ornament [pg 050] than these shell-gorgets could have been designed, or worn by the ancient Maya or Mexican priests, prophets and leaders who, in a remote past, had guided themselves by the light of Polaris and instituted its cult as the basis of their native religion.

On realizing the above-mentioned identity of symbolism, it is impossible not to conclude that the prehistoric race which inhabited certain parts of the United States was under the dominion of the same ideas as were the Mexicans and Mayas. The indications point, in fact, to the probability that the origin of the employment of the spider-symbol originated in Yucatan, and if this be admitted then there is no reason to deny the possibility that the serpent-symbol came from there also, since the Maya language suggests an affinity between the serpent, *can*, and the sky = *caan*, and the numeral 4 = *can*. I refrain, for the present, from expressing any final conclusion on this subject, which will doubtless afford ample food for reflection and argument to all interested in the important problem as to where the cradle of ancient American civilization was situated. But these symbolic gorgets go

far towards substantiating Professor Putnam's oft-expressed conclusions that the ancient peoples of the central and southern portions of the United States were, to a certain extent, offshoots of the ancient Mexicans.

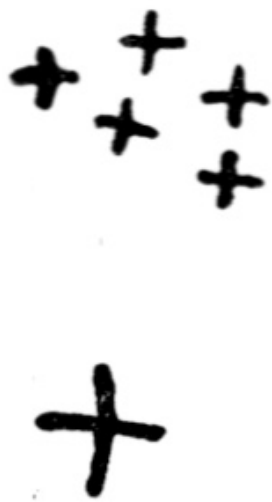


Figure 23.

Before abandoning the subject of native symbolism and star-emblems I should like to present, as a curiosity, with an appeal to specialists to enlighten me as to the astronomical knowledge of the Eskimos, an Eskimo drawing from Professor Wilson's instructive and useful monograph. It is said to represent a “flock of birds,” but so closely resembles Cassiopeia and Polaris that I am tempted to view it as an indication that the Eskimos may also have associated the idea of a celestial bird, or birds, wheeling around a central point, with the constellation and the pole-star (fig. 23). Having once ventured so far afield, I cannot refrain from presenting here an interesting

set of aboriginal star-symbols, reproduced from Professor Wilson's comprehensive work (fig. 24), each composed of a cross combined, with a single exception, with a circle. I draw attention to the striking resemblance of some of these signs to those painted on the finely decorated pottery found on the hacienda of Don José Luna, in Nicaragua, and described by J. F. Brandsford, M.D. (Archaeological Researches in Nicaragua, Smithsonian Inst., 1881, p. 30, B), and suggest that, in [pg 052] both localities, the symbol may be a rudimentary swastika, and represent Polaris and circumpolar rotation.

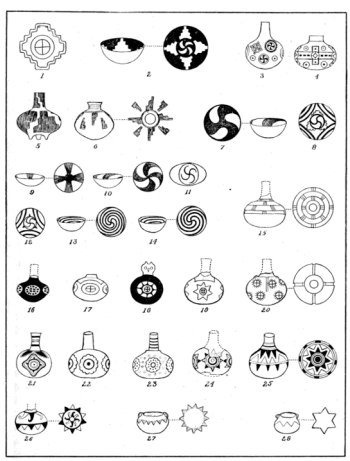


Plate III. 1. Shell gorget, Missouri. 2, 5-14. Pottery vessels, Arkansas. 3, 4, 15-17, 19-28. Pottery vessels, Missouri. 18. Pottery vessel, Kentucky. 6. National Museum. 3, 16, 17, 21, 24, 25. St. Louis Academy. All others Peabody Museum. Willoughby, “Pottery from the Mississippi Valley.” Journal of American Folk-lore, January-March, 1897.

In conclusion I refer the reader to Mr. C. C. Willoughby's

valuable and most interesting “Analysis of the decorations upon pottery from the Mississippi Valley” (Journal Amer. Folk-lore, vol. X, 1897), in which he figures the remarkable specimens preserved in the Peabody Museum, Cambridge, the designs on which, as he states, “are mostly of symbolic origin and have been in use among various tribes within the historic period from the Great Lakes to Mexico.” With the kind permission of the editor of the Journal, I reproduce some of Mr. Willoughby's illustrations on Plate III.

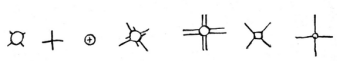


Figure 24. Crosses And Circles
Representing Star Symbols, Arizona.

Returning to consider the probable result of the gradual diffusion of star-cult owing to natural causes and of the consequent divergence from the idea of the Centre, which had so deeply influenced the minds of primitive men during many centuries, with earnest, and extended astronomical observation, keeping pace with the development of the idea of the Above and Below, it is obvious that the utmost attention would be next given to the conspicuous star groups and planets which are visible at certain times and then seem to have departed or descended into the under world. Any one who has read the interesting communications by Herr Richard Andree (Globus. bd. LXIV, nr. 22), On the relation of the Pleiades to the beginning of the year amongst primitive people, followed by a note by Herr Karl von den Steinen on the same subject, will realize that widely-separated tribes of men, by dint of simple observation, knew the exact length of the periodical appearance and disappearance of this star group and regulated their year accordingly. Herr Andree cites, for instance, that “in the Society islands, the

year was divided into two portions, the first of which was named Matari-i-inia = the Pleiades above. It began and lasted [pg 053] during the time when these constellations were visible close to the horizon after sunset. The second period, named Matarii-i-raro = the Pleiades below, began and lasted for the time during which the star-group was invisible after sunset" (W. Ellis, Polynesian Researches, vol. II, p. 419, London 1829). That the ancient Mexicans had likewise observed the Pleiades and been deeply impressed by them is proven by the well-known fact that the ceremony of the kindling of the sacred fire, which betokened the commencement of a new cycle, was performed "when the Pleiades attained the zenith at midnight precisely." In my complete monograph in the ancient Mexican calendar-system it will be my endeavor to present all the data I have collected concerning the degree of elementary astronomical knowledge attained by the native astronomers. I shall, therefore, content myself with pointing out here that besides the foregoing testimony about the Pleiades, the native name for which was the miec = the many, or the tianquiztli = the marketplace, there are records proving that the cult of the planet Venus was a firmly established feature of the native religion at the time of the Conquest. Sahagun records that the Nahuatl names for this planet were citlalpul or hueycitlallin both signifying "the great star." "In the great temple of Mexico an edifice named ilhuicatitlan [literally, the land of the sky] consisted of a great, high column, on which the morning star was painted.... Captives were sacrificed in front of this column annually, at the period when the star re-appeared" (*op. cit.* appendix to book II).

With regard to the connection of the Pleiades with the beginning of the Mexican cycle, it is interesting to note Herr Andree's statements that the most intimate connection of the star-group with the thoughts of primitive people, would naturally take place in such localities where its periodical movements coincided with the changes of season, wind and weather which affected

agriculture. A survey of the data presented by Herr Andree shows that the cult of the Pleiades attained its greatest development amongst tribes inhabiting a southerly latitude. It was in South America, indeed, that the Peruvians, alongside of their highly developed sun-cult, rendered homage and offered sacrifices to the Pleiades. In Mexico, the cult of the Pleiades appears as intimately associated with that of the sun and to have assumed importance only in historical and comparatively recent times, probably when the periodicity of the sun's movements had been taught or recognized and the [pg 054] sign *ollin*, which is an exact presentation of the annual course of the sun, had been invented and adopted as a symbol. I have already pointed out that this sign occurs on the calendar-stone, for instance, which has a human face in its centre, bearing two numerals on the forehead and obviously symbolizing the union of two in one. In other instances the centre displays the eye, or star symbol and conveys the suggestion that the “four movements” of the circumpolar constellations were thereby symbolized. It may be that, in ancient Mexico, the two symbols, respectively referring to the movements of the sun and of the circumpolar star-groups, were emblematic of the two different cults or religions which existed alongside of each other. The first, the cult of the Above, of the Blue Sky, was directed towards the sun and the planets and stars intimately associated with sunrise and sunset, amongst them the Pleiades. The cult of the Below, of the Nocturnal Heaven, was directed towards the moon, Polaris and the circumpolar constellations—also to the stars and planets during the period of their disappearance and possibly in the same way to the enigmatical “Black Sun,” figured in the B. N. MS. which may have been the sun during its nightly stay in the House of the Underworld, whose door was in the west. In order to obtain an idea of the immense proportions ultimately assumed by these two diverging cults and the enormous influence they exerted upon the entire native civilization, it will be necessary to examine the form of the social organization in Montezuma's time.

In order to comprehend this, however, it is first necessary to study carefully the myths relating to its origin. Torquemada (lib. VI, chap. 41) cites the authority of Friar Andreas de Olmos for the following native account of the creation of man, which was differently recounted to him in each province. He states that the majority of the natives, however, agreed that "there was in heaven a god named 'Shining Star' (Citlal-Tonac) and a goddess named 'She of the starry skirt' (Citlal-Cue), who gave birth to a flint knife (Tecpatl). Their other children, startled at this, cast the flint down from the sky. It fell to earth at the place named 'Seven caves' and 'produced 1,600 gods and goddesses,' " a figure of speech which evidently expressed the idea that, in coming in forcible contact with the soil the flint gave forth sparks innumerable which conveyed vitality to numberless beings. It is evidently the same idea of "life sparks" being called into existence by the union of [pg 055] heaven and earth which underlies the Texcocan version of the creation of man recorded as follows by Torquemada (*op. et loc. cit.*). "The sun ... shot an arrow towards the land of Acolma near the boundary of Texcoco. This made a hole in the ground whence issued the first man...."

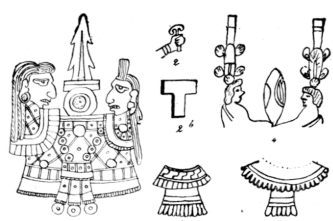


Figure 25.

The illustrated version of the above myths, given in the Vatican Codex I, designates the celestial progenitor of human life as Quetzalcoatl, also named Tonaca-

Tecuhtli = the lord of our subsistence, Chicome-xochitl = "Seven roses or flowers" and Citlalla-Tonalla = "The Milky Way," literally, The shining stars. The dual divinity is figured (fig. 25, no. 4) as two persons with the shaft of an arrow over each of their heads and with the symbol Tecpatl = flint, between them as the issue of their union. In the Borgian Codex (fig. 25, no. 1), a barbed arrowpoint, instead of the Tecpatl, figures between the celestial parents. Their union is symbolized by a covering, the shape of which, in further representations (fig. 25, nos. 3 and 5) in the same MS., offers resemblance to the tau-shaped windows which are such a common feature in Maya and also in Pueblo architecture (fig. 25, no. 2*b*). The preceding data, which could be amplified, seem to show that the natives associated the tau-shape not merely with the idea of the Male and Female principles, but also with the Above and the Below, or Heaven (air and water) and Earth (earth and fire). I shall have occasion, further on, to refer again to the symbolism of the native tau.

The above illustrations, however, definitely prove that the flint knife and the arrow (with a flint point, presumably), were indiscriminately designated as the medium by means of which the spark of life was created and imparted to earth-born beings.

It will be proved further that, at the period of the Conquest, the arrow was revered as an image of life-producing force in Yucatan and Mexico. The flint knife cased in wrappings was called "the son" of Cihuacoatl, the earth-mother, and was regarded as her [pg 056] special symbol. It is significant, therefore, to find that it was the emblem of office of one of the two high priests, who alone employed it, as a sacrificial knife, in performing his awful duty of immolating human victims.

The fact that the cane-shaft of an arrow figures above the head of the celestial couple in the Vatican Codex is particularly interesting because the name Ome-

Acatl = Two-Cane, is given as the name of a divinity by Sahagun (book I, chap. 15) and that the ceremony of kindling the New Fire, at the commencement of a cycle of years was also associated with the calendar sign Ome-Acatl (Sahagun, book VII, chap. 10).

At a certain festival images of Omacatl were manufactured and carried by the devout to their houses in order to receive from them "blessings and multiplication of possessions" (Sahagun, book II, chap. 19).

I draw attention to the fact that life is supposed to have proceeded from the union of stellar divinities, that the Tecpatl and flint are the well-known symbols for the North and Fire and that the Vatican commentator identifies the celestial parent as "Seven-Flowers." What is more, Duran (vol. I, pp. 8 and 9) relates that the native race was organized into seven separate tribes and that these "claimed to have come out of 'seven caves' (Chicom-oztoc) which were situated in Teo-Culhuacan or Aztlan 'a land of which all men know that it is in the North.'" Now Teo-Culhuacan is composed of the word Teotl, which designated the stars, the sun, the gods and, by extension, something divine or celestial. Culhua (*cf.* Coloa) means something bent over or recurved, or the action of describing a circle by moving around something, and *can* means "the place of" in Nahuatl. This locality is represented in the picture-writings by a strange and impossible mountain with a recurved summit (fig. 26, no. 1). Aztlan literally means "the land of whiteness, brightness, light." In Duran's Atlas the seven caves are represented as containing men and women—the progenitors of the seven tribes. The order in which these are described, in the Mexican myth, as having issued from the caves, is instructive and sheds light upon the provenance and purpose of the tradition. It represents the Mexicans as the superior predestined race who remained in their cave the "longest, by divine command," their "god having promised them this land." The tradition relates that six tribes reached and settled down in the

central plateau of Mexico, [pg 057] 302 years before the Aztecs arrived, under the leadership of Huitzilopochtli an oracular divinity, whose commandments were transmitted to the people by four priests (Duran, chap. II).

In my opinion it is impossible to study the above and supplementary data without realizing that the native race assigned its origin to a dual star-divinity, associated with the Tecpatl, the symbol for the North and for Fire. The peculiarity that the divinity is designated as Seven-flowers, and that there were seven tribes, indicates that the native idea was that each tribe came from one of the seven stars in Ursa Major or Minor. The Aztecs seem to have claimed for themselves the descent from the superior star, the central one, and to have thus justified or supported their ultimate establishment of a central government which ruled over the other six tribes.

Figure 26.

The assumption that the native race claimed descent from the Ursa Major or Minor constellation is further supported by the fact that the shape of the mythical recurved mountain and the name Aztlan = land of light or brightness are simultaneously explained, as well as the number of caves and tribes. It does not seem to be a mere coincidence that in two totally different Codices (the Selden MS. p. 7, Kingsborough, vol. 1, and the B. N. MS., p. 70) a sacred dance is represented as executed by seven individuals who move around a central seated personage. In the latter MS. the seated figure wears a head-dress surmounted by flint knives and his face is painted *red* the color assigned to the North. Moreover the dance is taking

place before an image of Mictlan-Tecuhtli, the lord of the North, whose raiment is strewn with cross-symbols. Referring to other native dances we find that the most sacred of all dances was performed at the festival of the god of fire by priests only, who, smeared with black paint to typify darkness and [pg 058] night, carried two torches in each hand and first sat, then slowly moved, in a circle, around the "divine brazier," and finally cast their torches into it (Duran II, p. 174). This, probably the most ancient of sacred dances, must have been extremely impressive and significative to those who witnessed it, at night-time, from the base of the pyramid and heard the distant solemn chant of the dancers. To watchers from afar, the fire and the lighted torches revolving around must have seemed like a great central star with other stars wheeling about it.

Further on, it will be shown that the earliest form under which the Deity was revered was that of fire and the foregoing description fully explains why it was first chosen as the most fitting image of the central immovable star. It has already been shown that, in the popular game of "the flyers," a high pole surmounted by one man served as the pivot for the circumvolation of the four performers, who "acted" the "flight of time." The idea of an extended rule, proceeding from a central dual force, was, however, carried out on a grand scale in the most solemn of all public dances named the Mitotiliztli. Duran (II, p. 85) states that as many as "8,600 persons danced in a wheel in the courtyard of the Great Temple, which had four doorways, facing the cardinal points and opening out on to the four principal high roads leading to the capital. The doorways were respectively named after the four principal gods and were spoken of as 'the doorway of such and such a god.' "

Clavigero, to whose work (Historia, ed. Mora, Mexico, 1844, p. 234) I refer the reader for further details, describes the dances at the time of the Conquest as having been most beautiful, and relates that the natives

were exercised in these, from their childhood, by the priests. This authority also relates that the Mitotiliztli was performed by hundreds of dancers at certain solemn festivals, in the great central square of the city or in the courtyard of the temple, and gives the following description:

The centre of the space was occupied by two individuals (designated elsewhere as high priests) who beat measure on sacred drums of two kinds. One, the large huehuetl, emitted an extremely loud, deep tone, which could be heard for miles and was usually employed in the temples as a means of summoning to worship, etc. The second, the teponaztle, was a small portable wooden drum which was usually worn suspended from the neck by the [pg 059] leader in warfare and emitted the shrill piercing note he employed as a signal. The chieftains (each of which personified a god) surrounded the two musicians, forming several concentric circles, close to each other. At a certain distance from the outer one of these, the persons of an inferior class were placed in circles and these were separated by another interval of space, from the outermost circles, composed of young men and boys. The illustration given by Clavigero records the order and disposition of this sacred dance, which represented a kind of wheel, the centre of which was occupied by the instruments and their players. The spokes of the wheel were as many as there were chieftains in the innermost circle. All moved in a circle while dancing and strictly adhered to their respective positions. Those who were nearest the centre, the chieftains and elders, moved slowly, with gravity, having a smaller circle to perform. The dancers forming the outer circles were, however, forced to move with extreme rapidity, so as to preserve the straight line radiating from the centre and headed by the chieftains. The measure of the dance and of the chorus chanted by the participants was beaten by the drums and the musicians asserted their absolute control of the great moving wheel of human beings, by alternately quickening or slackening the measure. The

perfect harmony of the dance, which successive sets of dancers kept going for eight or more hours, was only disturbed occasionally by certain individuals who pushed their way through the lines of dancers and amused these by indulging in all sorts of buffoonery. No one, on reading the above description of the most ancient and sacred of native dances can fail to recognize that it was an actual representation of axial rotation and that no more effective method of rendering the apparent differences in the degrees of velocity in the movements of the circumpolar and equatorial stars, could possibly have been devised. The fact that this dance was a most solemn and sacred rite, whose performance was obligatory to the entire population, indicates that it constituted an act of general obedience and homage and a public acknowledgment of the absolute dominion of a central dual, ruling power.

It is particularly interesting that, in this dance, the latter is represented by two individuals who respectively employ the sacred drum of the priesthood, and that used by war chieftains only (the one instrument emitting a low and the other a high tone); for the [pg 060] culture hero of the Tzendals, Votan, who, with the aid of his followers, taught this tribe the civil laws of government and the religious ceremonials, was entitled "the Master of the sacred Drum." (See Brinton, American Hero-Myths, p. 214.)

Reverting to the organization of the native race into seven tribes and the wandering of the seventh and principal division, under the leadership of Huitzilopochtli: according to Tezozomoc (Cronica, p. 23), Huitzilopochtli was accompanied by "a woman who was called his sister and was carried by four men. She was a powerful sorceress, possessed the power of assuming the shape of an eagle, had made herself greatly feared and caused herself to be adored as a goddess." Indignant at her arrogance the priests counselled a course which was adopted by the Mexicans. The woman and her family were left behind at Malinalco where they settled and

populated a town, whilst the other portion of the tribe, under strictly masculine rule, advanced towards Tula where they established themselves. “This was the second division which had taken place, amongst the Mexicans or Aztecs ... and when they reached Tula they found their number greatly diminished.” This same incident is related with greater detail by Torquemada (vol. I, chap. II) from which we learn what a great animosity was felt against the woman. On one occasion, which I shall not pause to describe, two war chiefs menaced her. The “talk” she gave them in return is so remarkable that it deserves to be quoted in full; for it affords a deep insight into the native mode of expression, teaches us the titles of the woman and shows that her position was undoubtedly one of powerful authority.

“I am Quilaztli, your sister and of your tribe ... you know this and yet you think that the dispute or difference you have with me is like an ordinary one, such as you might wage with any ordinary base woman, who possessed little spirit or courage. If you indulge in this thought you are deceiving yourselves, for I am valiant and manly and my titles will oblige you to acknowledge this. For besides the ordinary name of Quilaztli, by which you know me, I also possess four titles, by which I know myself: the first of these is Cihuacoatl = the Woman-serpent (or twin); the second is Quauh-Cihuatl = the Eagle-woman; the third is Yao-Cihuatl = the Woman-warrior and the fourth is Tzitzimi-Cihuatl, the Woman of the Underworld. From the properties [pg 061] or qualities conveyed by these titles you can appreciate who I am; what power I yield and what harm I can do you and if you want to test the truth of this, here is my challenge!”

“The two brave captains, undaunted by the arrogant words by which she attempted to terrify them, responded: 'If you are as valiant as you describe yourself to be, we are not less so; but you are a woman and it is not meet that it should be said of us that we took up arms against women;' and without speaking further they left her, much

affronted that a woman should challenge and defy them. And they kept silence about this occurrence so that their people should not know of it." Señor Alfredo Chavero (appendix, p. 125, to Duran's Historia, Mexico, 1880), commenting upon this passage, says: "It is impossible to doubt that this tradition refers to an important event in the history of the Aztec tribe.... I think it contains the record of a religious struggle."

The full significance of the narrative will become clear, I think, when the following points are dwelt upon. One thing is certain: here is a historical personage, a woman, who was termed *the sister* of Huitzilopochtli, who evidently exerted a high authority and whose titles were actually the names of the highest female divinity. Sahagun (book VI, chap. 37) states that Quilaztli, a goddess, the same as Cihuacoatl, was the mother of all and was also named Tonant-zin = "our mother." What is more significant still is that, in all historical records antedating the Conquest, a man bearing the feminine title of Cihuacoatl = serpent woman, is distinctly and repeatedly mentioned as the coadjutor of the Mexican ruler. Mr. Ad. Bandelier, in his careful study "On the social organization and mode of government of the Ancient Mexicans" (Twelfth Annual Report of the Peabody Museum of Am. Arch, and Ethn., Cambridge, 1879) to which I refer the reader, discusses the relative positions of Montezuma and the Cihuacoatl and states: "there is no doubt about their *equality* of rank though their duties were somewhat different" (p. 665). This equality is illustrated by the records that both rulers shared the same privileges regarding dress. Thus they alone wore sandals and the Cihuacoatl is termed "the second or double of the king, his coadjutor" (Duran, chap. XXXII, p. 255 and Tezozomoc, chap. XL, p. 66). The latter author, however, gives the full "sacred title" as Tlil-Potonqui Cihuacoatl, literally, "the black-powdered woman-serpent" and we thus [pg 062] learn that, whilst Montezuma's garments were habitually blue like Huitzilopochtli, his coadjutor, like Tezcatlipoca, was

associated with black. It is well known that some of the Mexican priests always smeared their bodies with black, which was therefore their special mark.

To my idea the foregoing data, with circumstantial evidence too diffuse to be conveniently produced, clearly indicate that at one time, in the early history of the Aztec race, it had been governed jointly by a male and a female ruler on a footing of perfect equality, the one being the living representative of the Above or masculine elements and the other personifying the Below or feminine elements. The fact that Cihuacoatl is named "the sister" of Huitzilopochtli shows that the female ruler was not necessarily his wife, although she was his coadjutor in her own right. Both rulers were respectively served by four persons presumably of their respective sex. Besides these Duran (chap. 3) records that "there were also other seven teotls = lords, who were much reverenced on account of the seven caves out of which the seven tribes had come."

We thus perceive that at one time the chief authority was vested in a man and a woman, his sister, who enjoyed a perfect equality. Four persons administered the government of each ruler and each of the seven tribes had "its honoured representative." For how long this organization had existed it is impossible to tell. Dissension arose and division supervened, but to the time of the Conquest the identical form of government was in force with the remarkable difference that the title and office of the Cihuacoatl, originally held by a woman, were held by a man, whom I do not hesitate to identify as one of the two "supreme pontiffs," whose emblem of office was the flint knife, the offspring of Cihuacoatl, the earth-mother.

Historical evidence shows that this alteration had not been made without bloodshed and renewed difficulties. Thus it is related that, long after the Mexicans had separated from the sister of Huitzilopochtli and her adherents, they were induced to "ask the daughter of the

ruler of Culhuacan to become the Queen of the Mexicans and mother of their god. She conformed with their request but was subsequently killed by her subjects, who flayed her body and dressed a youth in her skin [a figure of native speech which symbolized his assumption of her office]. Under this form she was revered as a goddess, was named our grandmother and 'the mother of the god,' etc." These and the following details, [pg 063] taken from well-known authentic native sources, are attractively rendered in the "Newe Welt und Amerikanische Historien" (Johann Ludwig Gottfriedt. Frankfurt-a.-M., 1613, pp. 54 and 55).

Again, after the Mexicans had been settled at Tenochtitlan for some time, they desired to make an alliance with the King of Culhuacan and therefore "chose to nominate, as their ruler, Acamapichtli, who was the son of a Mexican chieftain by a daughter of the Culhuacan ruler" and evidently lived with the latter. For it is related that, on giving his consent, the king of Culhuacan stated that if only a *woman* (of his family) had been nominated he would have refused (to trust her to the Mexicans). The farewell words he addressed to Acamapichtli are worthy of quotation: "Go my son, serve thy god, be his representative. Rule the creatures of the god by whom we live; the god of day, of the night and of the winds. Go and be the lord of the water and land owned by the Mexicans."

As it is subsequently stated that Acamapichtli *and his queen* were received at Tenochtitlan with great honors, it would seem as though the Mexicans who, from some deeply-rooted religious idea, considered it essential to have a female ruler of the line of the king of Culhuacan, obtained their desire only by accepting a male member of her family as a protection and safeguard for her sacred person. It may be that for the reasons of safety and preservation the female ruler, who was the living representative of the Cihuacoatl, gradually retired into absolute seclusion whilst a man of her kin assumed, in

public, her title and prerogatives.

Unless it is assumed that this was the case, it seems impossible to explain why Acamapichtli is designated in the Codex Mendoza (Kingsborough, vol. I, pl. II) as having begun to rule in the year I Tecpatl or flint (approximately corresponding to A.D. 1364) with the title of "Woman-serpent" = Cihuacoatl. From this date the title seems always to have been borne by a man. When human sacrifices had become a prominent feature of the native cult and it became a duty of the Cihuacoatl to perform the bloody rite, it is obvious that it became impossible for a woman to fill the position.

We obtain, however, glimpses of the shadowy form of an invisible and venerable female ruler who is at the head of the "House of Women," watches over the welfare of the women of the tribe and officiates as a priestess, with her assistants, at births, baptisms and marriages. In order to account for the obscurity which surrounds [pg 064] her, it should be noticed that the mere fact that the ideas of darkness and seclusion became indelibly associated with the female sex, would naturally and inevitably cause women to be housed up, veiled and condemned to comparative inaction and immobility. A primitive stage in the growth of the above idea is shown in the case of the Huaxtecas, the women of which tribe wore abundant covering whilst the men, on religious principle, wore none. A careful study of the conditions surrounding the Cihuacoatl or high priest shows that he also conformed to the exigencies of his position when he acted as the representative of the hidden forces of Nature, of the female principle. He and the entire priesthood smeared their bodies with black, cultivated long hair, and wore, during the performance of certain religious ceremonies, a wide and long garment reaching to the ground. It is noticeable that the designs on the garments of the priests, in the B. N. MS., are invariably executed in red and yellow, the symbolical colors of the north and west, combined with black the symbol of the union of both, the

Below. In this connection it is noteworthy that in Mexican pictography the faces of women are usually painted yellow—the color of the West = the female region. The association of darkness, concealment and secrecy, with the female principle, is exemplified by the fact that a building in the enclosure of the Great Temple of Mexico, named the "house of darkness," was dedicated to the earth-mother = Cihuacoatl (Sahagun, appendix to book II). Other temples of hers are described as being cave-like, underground, dark, with a single low entrance, the door of which was sometimes sculptured in the form of the great open jaws of a serpent. Only priests were allowed to penetrate into these mysterious chambers where sacred and secret rites were performed and a sacred fire was also kept burning in an adjoining chamber. Evidence, which I shall produce further on, establishes that the high-priest Cihuacoatl dwelt, at times, in a house named "place of darkness" and annually sacrificed a human victim in honor of the lord of the underworld, in an edifice called "the navel of the earth."

The religious cult of one-half of the Mexican hierarchy was distinctly nocturnal. The chief duties of certain priests were astronomical observation and the supervision of the sacred fire, which was kept perpetually burning on the summit of each temple-crowned pyramid, in what was termed "the sacred or divine brazier" of [pg 065] sculptured stone. Two priests jointly watched by night and day and received and transmitted to the flames the incense offerings of the devout. The temple fires were extinguished only at the expiration of a cycle of fifty-two years and were then rekindled by the high priest at midnight precisely, with impressive solemnity.

In ancient Mexico, it should however be observed, although the logical association of women with the hidden forces of nature, the underworld and the Below, had exerted a certain influence over her practical existence, it had not yet given rise to the idea of her inferiority as compared to man, the associate of the

Heaven, the Above, the visible and active forces of nature. The native sages did not identify her so intimately with the earth as to deny her the possession of a soul—the celestial spark. On the other hand it is curious to note that the Nahuatl word for wife is Cihua-tlan-tli and for husband is Te-o-quichtli. Is it possible that the particle *tlan* in the first and *Teo* in the second may have contributed to strengthen the association of the woman with earth = tlalli (tlan = land of) and the man with Teotl, the sun, something divine and celestial? In course of time it doubtlessly would have transpired, in Mexico as elsewhere, that the set of primitive ideas which, during untold centuries, imposed upon women seclusion, obscurity and inactivity and thus hindered her development of strength of body and mind, would have directly induced an inferiority. This has been subsequently proclaimed, as we know, in many countries, as a direct proof of her lower nature and of her affinity with the element earth. The assumed and actual inferiority of woman may therefore be regarded as the logical, inevitable but artificial result of primordial classification and association. Suggested by the same natural phenomena which were visible to all inhabitants of the same latitudes, these ideas occurred to all people at a certain stage of their development and exerted a dominating influence over the subsequent growth of their intelligence. It is but now, that, unconsciously, mankind is beginning to emerge from the leading strings of its infancy, which became an iron bondage to its prolonged childhood. In Mexico, at the period of the Conquest, the absolute equality of the male and female principles was theoretically maintained. At the same time it is possible to discern certain agencies at work which were tending to connect the Below, the female principle, with harm and evil. From time immemorial [pg 066] it had been the custom of the Chichimecs, who, according to Sahagun (book XII, chap. 12, par. 5), inhabited an extremely poor and barren region of Mexico, to sacrifice the first animal killed in a hunting expedition and to offer it to "the Sun whom they called father and to the earth their mother."

They severed its head and raised this as though offering it to the sun. They *then tilled the earth where the blood had been spilt* and left the animal which had been sacrificed, on the spot (Ixtlilxochitl, Historia Chichimeca chap. VI and Relaciones p. 335). This passage, establishing the cultivation of the soil where the blood had been spilt, sheds a flood of light on the origin of the offerings of human blood and the sacrifices of human life, which were such a prominent and hideous feature of the Aztec religion.

At the beginning of the sixteenth century, instead of the blood being spilt directly upon the earth, to insure and increase the fruitfulness of the soil, a human being was stretched across a conical stone which became thus the image of the earth-mother, his heart was extracted and offered to the sun, the Above, and his blood was then smeared on the mouth of certain idols representing the Below. In the B. N. MS. an interesting illustration and account are given of an idol of the earth-mother who is figured as standing on a pedestal adorned with skulls and cross-bones with outstretched tongue which signified, “that she always had great thirst for human blood” and “never refused sacrifices offered to her.”

Two priests are likewise pictured in the act of offering bowls containing human blood to the idol and a third, mounted on a ladder, is pouring the contents of another bowl over its head. It is obvious how the constant associations of the earth-mother with sanguinary sacrifices and bloodthirstiness would, in time, give rise to the idea of a hostile, maleficent power, linked with darkness and devouring fire, who, under the aspect of the serpent-woman, waged an eternal warfare on the human race and clamored for victims and bloody sacrifices. The natural sequence to the above associations is that in ancient Mexico the powers exerting fatal influence upon the human race are all represented as female, viz.: the Cihuacoatl or woman-serpent, the Ciuapipiltin and the Tzit-zime, etc. These and various other personifications of

the female principle are described in detail in my notes and commentary to the B. N. MS.

After considering the foregoing data it seems impossible not to [pg 067] conclude that it must have taken centuries of time for the idea of duality, or of the Above and Below to have taken such a deep hold upon the native mind and to have produced such a growth of symbolism and association in so many ramifications of thought. Let us endeavor to obtain a further insight into the native mode of thought by carefully studying some significant details concerning the social organization of the Mexicans from the time of Acamapichtli to that of Montezuma and the influences it had been subjected to gradually. This, the first ruler, unquestionably ruled as the Cihuacoatl, a name which means either Woman-serpent or Female-twin. This fact in itself testifies to an epoch-making change in the organization of the Mexican government, in the making of which a concession was made to a previously existing order of things, by the retention of the female title by a male ruler.

Having carefully studied the question for many years, I have long considered it proven that when the Mexicans settled in the valley of Mexico they came under a series of influences emanating from an ancient and highly cultured centre of civilization situated in the south, which had followed, during untold centuries, the same lines of primitive thought which have been stated. This question of contact and influence from an older civilization is so important and the material I have collected on the subject is so extensive and complex, that it cannot be adequately treated here. Further on I shall discuss at length certain historical data throwing light on ancient contact and influences. Meanwhile I may as well state here that, having carefully weighed all testimony, I accept as amply proven and well supported, the testimony of Las Casas, Torquemada, Mendieta and others, who record that the Mexican culture-hero Quetzalcoatl was an actual person who had come to Mexico from Yucatan twice and had

finally returned thither, leaving a small colony of his vassals behind him whose influence upon the religious and social organization and symbolism of the tribes, inhabiting the central plateau, can be plainly discerned. Montezuma himself, in his famous speech to Cortés, which the latter carefully reported to the Emperor Charles V, states that: "we [the Mexican rulers] were brought here by a lord, whose vassals all of our predecessors were, and who returned from here to his native land. He afterwards came here again, after a long time, during which many of his followers who had remained, had married native women of this land, raised large families and founded towns in [pg 068] which they dwelt. He wished to take them away from here with him, but they did not want to go, nor would they receive or adopt him as their ruler, and so he departed. Hut we have always thought that his descendants would surely come to subjugate this country and claim us as their vassals...." (Historia de Nueva España. Hernan Cortés, ed. Lorenzana, p. 81; see also p. 96). I do not see how it is possible to construe such plain, unadorned statements of simple, common-place facts into the assumption that Montezuma was recounting a mythical account of the disappearance of the Light-god from the sky, as upheld by some modern writers, who interpret the whole episode as a sun-myth or legend.

I have already shown that the meaning of the ocelot-skin and the spider, employed as symbols by the Mexicans, is apparent only when studied by means of the Maya language of Yucatan, the land whence the culture-hero is said to have come by the foregoing authorities. I will add here that in the Maya chronicles, it is stated that the culture-hero had ruled in Chichen-Itza, the first part of which name, *Chichen*, means *red*. In Mexican records it is described that he departed by water from the Mexican coast and travelled directly east, bound for Tlapallan—a name which means *red*-land. I draw attention to the fact that any one sailing from the mouth of the Panuco river, for instance, in a straight line towards the east, would

inevitably land on the coast of Yucatan, not far from the modern Merida and the ancient ruins of Chichen-Itza.

I shall also produce evidence, further on, to show that the meaning of the much-discussed name of the culture-hero's home, Tullan, is also furnished by the Maya language. From more than one source, we learn, moreover, that there were several Tullans on the American continent. The conception of *Twin-brothers* as the personification of the Above and Below had been adopted in Yucatan and it is to the influence emanating from that source that I attribute the movement made in Mexico, to substitute male twin-rulers in the place of the man and woman, who had previously and jointly ruled the ancient Mexicans.

Let us now analyze the Maya title Kukulcan, of which Quetzalcoatl is the Mexican equivalent. As already stated, the word *can* means serpent and the numeral 4 and is almost homonymous with the word for sky or heaven = *caan*. The image of a serpent, therefore, directly suggested and expressed the idea of something quadruple incorporated in one celestial being and appropriately [pg 069] symbolized the divine ruler of the four quarters. In the word Kukulcan the noun *can* is qualified by the prefix *kukul*. In the compiled Maya dictionary published by Brasseur de Bourbourg (appendix to de Landa's Relacion) the adjective *ku* or *kul* is given as “divine or holy.” Kukulcan may therefore be analyzed as “the divine serpent” or the “Divine Four.” When Maya sculptors or scribes began to represent this symbol of the divinity they must have searched for some object, easy to depict, the sound of whose name resembled that of ku or kul. The Maya adjective “feathered” being *kukum*, the artists evidently devised the plan of representing, as an effigy of the divinity, a serpent decorated with feathers and to this simple attempt at representing the “divine serpent” in sculpture or pictography is due, in my opinion, the origin of the “feathered serpent” effigies found in Yucatan and Mexico, which have so puzzled archaeologists.

Of Kukulcan, the culture-hero of the Mayas, it is recounted that he had been one of four brothers who originally ruled at Chichen-Itza, over four tribes. “These brothers chose no wives but lived chastely and ruled righteously, until, at a certain time, one died or departed and two began to act unjustly and were put to death. The one remaining was Kukulcan. He appeased the strife which his brothers' acts had aroused, directed the minds of the people to the arts of peace and caused to be built various edifices. After he had completed his work at Chichen-Itza he founded the great city of Mayapan, destined to be the capital of the confederacy of the Mayas.” (See Brinton, Hero-myths, p. 162.) Friar Diego de Landa relates that the current opinion amongst the Indians of Yucatan was that this ruler had gone to Mexico where, after his return (departure?) he was named Cezalcouatl and revered as one of their gods (Relacion, ed. Brasseur de Bourbourg, p. 36). Before analyzing the Nahuatl rendering of Kukulcan's name I would point out the noteworthy coincidence that, during his reign at Chichen-Itza and Mayapan, he practically united in his person and assumed the offices formerly fulfilled by four rulers, of which he had been only one.

I would, moreover, draw attention to the remarkable, sculptured columns which support the main portal of the main pyramid-temple called El Castillo at Chichen-Itza. These represent gigantic feathered serpents and are figured on pl. XIV of Mr. Wm. Holmes' most instructive and useful “Archaeological Studies,” Part I, “Monuments [pg 070] of Yucatan.” The feathers carved on the massive columns are evidently the precious tail feathers of the quetzal, which have the peculiarity of exhibiting, according to the way the light falls upon them, blue, red, yellow and green colors—precisely those assigned to the four quarters by the Mexicans and for all we know to the contrary, by the Mayas. Whether this feather was chosen for this peculiarity or for its beauty only, as that with which to deck the effigy of the divinity, can, of course, only be conjectured. In Mexico numberless effigies of

feathered serpents exist. The resemblance of the sound of the Nahuatl words: feather = ihuitl, and heaven or sky = ilhui-çatl, should be recorded here as a possible reason for the association of feathers with the serpent and as a means of conveying the idea of its divinity. It should also be noted that quetzal, the name of the most precious feathers the natives possessed, resembles in sound, the second part of the Nahuatl words for flame = tle-cueçal-lotl, or for "tongue of fire" = tle-cueçal-nenepilli. That the feathered serpent was an image of the divinity is finally proven, I think, by the following passage from Sahagun which establishes that the earliest form, under which the divinity was revered by the Mexicans, was that of fire: "Of all the gods the [most] ancient one is the God of Fire, who dwells in the midst of flowers, in an abode surrounded by four walls and *is covered with shining feathers like wings*" (*op. cit.* book VI, chap. IV). It is thus shown that whilst the word ihuitl = feather suggested something divine, the word quetzal, besides being the name of a particular kind of feather, conveyed the idea of something resplendent or shining [like fire]. The name for serpent, coatl, signified twin; thus there is a profound analogy between the Maya and Mexican symbol, pointing, however, to the Yucatan form as the most ancient.

Let us see how the name Quetzal-coatl occurs in Mexico. It is given as the name of the "supreme god whose substance was as invisible and intangible as air," but who was also revered as the god of fire. The constant reference to air in connection with the supreme divinity caused him to be also adored as the god of air and of the four winds. On the other hand, the divine title of Quetzal-coatl was carried by the culture-hero whose personality has been discussed and who was a Yucatec ruler and high priest. Sahagun (*op. cit.* book III, chap. IX) informs us that "Quequet-zalcoa," the plural form of the word Quetzalcoatl, was employed [pg 071] to designate "*the high priests* (elsewhere designated as the 'supreme pontiffs') *who were the successors of Quetzalcoatl*." He also states that "the high priest of the temple was [the

representative of] the god Quetzalcoatl" (book I, chap. 5). "The priest who was most perfect in his conduct and in wisdom was elected to be high priest and assumed the name of Quetzalcoatl.... There were two such high priests equal in rank and honours.... One of these, the Quetzalcoatl Totec Tlamacazqui, was in the service of Huitzilopochtli." Without pausing here to analyze this title since it will be discussed in detail in another publication I will only repeat that, after years of careful research, I have obtained the certainty that the foregoing title and office were those held by Montezuma at the time of the Conquest. What is more, I can produce ample evidence to prove that he was the living personification of Huitzilopochtli one of the "divine twins" and of the Above. He was not the first Mexican ruler who had filled this exalted rôle, for it is recorded that Axayacatl, one of Acamapichtli's successors, had represented, in life, "our god Huitzilopochtli." After his death his effigy "was first covered with a fine robe representing Huitzilopochtli; over this was hung the dress of Tlaloc ... the next garment was that of Youalahua [=the lord of the wheel] and the fourth was that of Quetzalcoatl" (Duran, vol. I, chap. 39, pp. 304 and 306).

Let us now see how Montezuma's personification of Huitzilopochtli was carried out by his life and his surroundings. According to Bernal Diaz, an eye-witness, when the great Montezuma came forth in state to meet Cortés, he was conveyed on a sumptuous litter, being thus raised above the earth.[6] When he descended from this and walked, the golden soles of his sandals prevented his feet from coming into direct contact with the ground; he was supported, *i. e.* partially held up, by his four principal [pg 072] lords, and a baldachin adorned with light greenish-blue feathers, gold, pearls and jade representing the xoxouhqui-ilhuicatl="the verdant or blue sky" (which was, by the way, a title of Huitzilopochtli), was carried over his head. Other lords preceded him, "sweeping the ground and spreading blankets upon it so that he should not tread upon the earth. All of these lords did not dare to

think of raising their eyes to look at his face—only the four lords, his cousins, who supported him, possessed this privilege" (Bernal Diaz, Historia Verdadera de la Conquista. Madrid, 1632, p. 65). A feature, the origin of which can be directly traced back to the association of the star-god, Polaris, with repose and immovability, was that Montezuma, like his predecessors, was the only person privileged to sit on state occasions, on a throne or raised seat with a high back and rest whilst all other individuals stood or moved about him.

From several sources we know that Montezuma habitually wore blue or white attire, which sometimes was of open network. He employed gold, precious blue and green feathers, turquoise, pearls and emeralds for his personal ornaments. His diadem with a high point in front, was incrusted with turquoise or was made of burnished gold. He sometimes wore a crown made of featherwork, with a bird's head of gold above his forehead. His emblem was the sun, the orb of day, and he presided over its cult which had developed itself simultaneously with the cult of the Above, a feature of which was the offering of "birds, butterflies and flowers." Sometimes he wore, "attached to his sandals, small wings, named tzi-coyolli, resembling the wing of a bird. These produced a sound like that of tiny gold bells when he walked" (Tezozomoc, Cronica, p. 594).

It must be admitted, on reading the foregoing descriptions gleaned from Sahagun's Historia, that it would be impossible to carry out, more perfectly and completely, the idea that Montezuma was the earthly representative of the Upper regions, the blue heaven. By pushing symbolism so far that he actually wore wings on his [pg 073] feet and avoided contact with the ground, it is not surprising that Montezuma's adversaries, amongst neighboring tribes, should accuse him of exacting divine honors for his own person. At the same time there is no doubt that his own subjects revered him merely as a temporary representative and mouth-piece of the

impersonal dual divinity. This idea is clearly conveyed by some native harangues, to which I refer the reader, and from which I extract the following passages:

After his election, the ruler is solemnly addressed by one of the chief lords who says to him: "Oh! our humane, pious and beloved lord, who deserves to be more highly esteemed than all precious stones and feathers, you are here present because our sovereign god has placed thee [above us] as our lord.... You possess the seat and throne which was given [to your predecessors] by our lord god" ... "you are the image of our lord god and represent his person. He reposes in you and he employs you like a flute through which he speaks and he hears with your ears.... Oh, lord king! God sees what the persons do who rule over his domains and when they err in their office he laughs at them, but in silence, for he is god, and is omnipotent and can mock at whom he will. For he holds all of us in the palm of his hand and rocks us about, and we are like balls or round globes in his hands and we go rolling from one side to the other and make him laugh, and he serves himself of us as we go moving about on the palm of his hand!"

"Although thou art our neighbour and friend and son and brother, we are no more thy equals, nor do we consider you as a man, for now you have the person, the image, the conversation and the communion of our lord god. He speaks inside of you and instructs you and lets himself be heard through your mouth—his tongue is your tongue, and your face is his face ... he has adorned you with his authority and has given you fangs and claws so that you should be feared and reverenced ..." (Sahagun, book VI, chap. 10).

The foregoing figure of speech in which fangs and claws are alluded to as symbols of fear-inspiring power affords as valuable an insight into the native modes of thought and expression as do the similes employed in the following address to the newly-elected ruler by the

spokesman of his vassals.

[pg 074]
“Oh lord! may you live many years to fill your office prosperously; submit your shoulders to the very heavy and troublesome load; extend your wings and breast as a shelter to your subjects whom you have to carry as a load. Oh, lord! let your town and vassals enter under your shadow, for you are [unto them] like the tree named puchotl or aueuetl, which casts a great circle or wheel of shade, under which many are gathered in shelter” (*op. cit.* book VI, chap. II).

The admonition also addressed to the ruler, “Never to laugh and joke again as he had done previously to his election, and to assume the heart of an old, grave and severe man,” explains the true significance of the name of Montezuma or Mo-tecuh-zoma; which was an honorific title literally meaning, “our angry or wrathy [looking] lord.”

Whilst the above data establish beyond a doubt that the Mexican Quetzalcoatl was regarded as the visible representative of the celestial ruler of the universe and that divine honors were voluntarily accorded to him, it is interesting to read Montezuma's explanation to Cortés concerning this question. The latter writes: “seated on a raised seat Montezuma discoursed as follows: ... ‘I know that you have been told by my enemies that I am, or have made myself a god.’... Raising his robes he showed me his body saying: ‘Here you see that I am made of flesh and bone, like yourself or like any one, and that I am mortal and tangible.’ Grasping his arms and his body with his hands he continued: ‘see how they have like to you.’ ”... (Historia, Hernan Cortés, ed. Lorenzana, p. 82). Better than all dissertations, the above words convey an idea of the naïf simplicity of the man who uttered them.

Referring the reader to Mr. Ad. Bandelier's study, “On the social organization and mode of government of the ancient Mexicans,” for further details concerning the duties respectively filled by Montezuma and his coadjutor, I shall only explain here the conclusion I have reached that the former was the high priest of the cult of the sun and heaven, the visible ruler, the war lord, and the administrator of justice. As stated in a native harangue: “the supreme lord is like unto the heart of the population ... he is aided by two senators in all concerning the administration of the government: one of these was a ‘pilli’ and was named [pg 075] tlaca-tecuhtli; the other was a warrior and was entitled tlacoch-tecuhtli. Two other chieftains aided the supreme lord in the militia: one, entitled tlaca-teccatl, was a ‘pilli’ and warrior; the other, named tlacoch-calcatl, was not a ‘pilli.’ Such is the government or administration of the republic ... and these four officers did not occupy these positions by inheritance but by election” (Sahagun, book VI, chap. 20).

The following account of the republic of Tlaxcalla throws further light upon the form of government which prevailed throughout Mexico and Central America at the period of the Conquest. “The Captains of Tlaxcalla, each of whom had his just portion or number of soldiers ... divided their soldiers into four Battails, the one to Tepeticpac, another to Oco-telulco, the third to Tizatlan and the fourth to Quiahuiztlan, that is to say, the men of the Mountains, the men of the Limepits, the men of the Pinetrees, and the Watermen; all these four sorts of men did make the body of the Commonwealth of Tlaxcallan, and commanded both in Peace and War ... The General of all the whole army was called Xico-tencatl, who was of the Limepits ... the Lieutenant General was Maxix-

catzin....” (A new survey of the West-Indies ... Thomas Gage, London, 1655, p. 31). In Mexico we find that the four executive officers were the chiefs or representatives of the four quarters of the City of Mexico. In each of these quarters there was a place where periodical offerings were made in reverence of one of the signs: acatl, tecpatl, callii and tochtli, which were the symbols of the cardinal-points, the elements, and served as day and year signs in the calendar (Sahagun, book II, chap. 26).

An interesting indication that the entire dominion of Mexico was also divided into four equal quarters, the rule administration of which was attended to by four lords, inhabiting towns situated within a comparatively short distance from the capital, is furnished by Bernal Diaz (*op. cit.* p. 65). He relates that the four lords who supported Montezuma when he walked in state to meet Cortés were the lords of Texcoco, Iztapalapa, Tacuba and Coyoacan. These towns, which were minor centres of government, were respectively situated at unequal distances to the northeast, southeast, northwest and southwest of the capital.

These facts and the knowledge that “all lords, in life, represented a god” justify the inference that, just as Montezuma represented [pg 076] the central power of the Above or Heaven, the four lords who accompanied him were the personified rulers of the four quarters, associated with the elements. In ancient Mexico and Maya records the gods of the four quarters, also named “the four principal and most ancient Gods” are designated as “the sustainers of the Heaven” and it cannot be denied that, on the solemn occasion described, the four lords actually fulfilled the symbolical office of supporting Montezuma, the personification of the Heaven. This striking illustration is but one of a number I could cite in proof of the deeply ingrained mental habit of the native sages to introduce, into every detail of their life, the symbolism of the Centre, the Above and Below and the Four Quarters. I shall but mention here that it can be

proven how, in their respective cities the lords of the cardinal points were central rulers who, in turn, directed the administration of the government by means of four dignitaries. Each of these was also the embodiment of a divine attribute or principle, “All noblemen did represent idols and carried the name of one” (Acosta, Naturall and Morall Historie, lib. 5, p. 349).

Each wore a special kind of symbolical costume and was the ruler or “advocate,” as he is termed, of a distinct class of people. “For to each kind or class of persons they gave a Teotl [=God or Lord] as an advocate. When a person died and was about to be buried, they clothed him with the diverse Insignia of the god to whom he belonged” (Mendieta lib. II, chap. 40). It being established that each of the four year-symbols, acatl, tecpatl, calli and tochtli, ruled four minor symbols, it seems evident that, just as the four lords of the cardinal-points would correspond to the above symbols, each of the minor lords and the category of people they represented would also be associated with the minor symbols. The obvious result of this classification would be the division of the entire population of the commonwealth into $4 \times 5 = 20$ categories of people, grouped under twenty local and four central governments, whose representatives in turn were under the rule of the supreme central dual powers. Having thus sketched, in a brief and preliminary way, the expansion of the idea of dividing all things into four parts, the bud of which was the swastika, let us examine the Mexican application of the idea of duality, pausing first to review the data relating to the Cihuacoatl, the personification of the Earth, the Below and the coadjutor of Montezuma.

Nothing has been definitely recorded about his personality, for [pg 077] he seems to have lived in absolute seclusion during the first occupation of Mexico by the Spaniards. He is frequently alluded to, however, and Cortés, Herrera, Torquemada and others, inform us that he had acted as Montezuma's substitute and led the

native troops against the Spaniards. It is interesting to find that after the Conquest Cortés appointed him as governor of the City of Mexico. “I gave him the charge of re-peopling the capital and in order to invest him with greater authority, I reinstated him in the same position, that of Cihuacoatl, which he had held in the time of Montezuma” (Carta Cuarta, Veytia I, p. 110).

Quite indirectly, it is possible to learn what sort of military equipment had been adopted by the Cihuacoatl when he acted as war-chief. Amongst certain presents, which were sent by Cortés to Charles V and are minutely described in vol. XII of the “Documentas ineditas del Archivio de Indias,” p. 347, there are several suits of armor, which could only have been appropriately worn by the “woman serpent.” One suit consisted of a “corselet with plates of gold and with woman's breasts” and a skirt with blue bands. Another suit, instead of the breasts, exhibited a great wound in the chest, like that of a person who had been sacrificed. In another list (by Diego de Soto, p. 349) a shield is described “which displayed a sacrificed man, in gold, with a gaping wound in his breast, from which blood was streaming....” It is obvious that the first of these suits of armor conveyed figuratively the name and the second the office of the Cihuacoatl of whom Duran speaks as follows:

“He whose office it was to perform the rite of killing [the victim] was revered as the supreme pontiff and his name or title and pontifical robes varied according to the different periods [of the year] and the ceremonies which he had to perform. On the present occasion his title was Topiltzin, one of the names of the great lord ... (Quetzalcoatl) and he appeared carrying a large flint knife in his hand ...” (*op. cit.*, chap. LXXXI). The following passage shows definitely that Montezuma's coadjutor, his Quetzalcoatl or divine twin, had an equal share of divine honors accorded to him. “The head priest of the temple, named Quetzalcoatl, never came out of the temple or entered into any house whatever, because he was very

venerable and very grave and was esteemed as a god. He only went into the royal palace" (Sahagun, book VI, chap. 39). The same authority designates [pg 078] the second "divine twin" as the Tlalocan-tlamacazqui or, Tlalocan-tlenamacac and states that he served the Tlalocan-tecuhtli.

Before proceeding further, let us pause and inquire into the reason why the name Tlaloc, which is formed of tlalli = earth and is defined by Duran, for instance, as meaning "an underground passage or a great cave" (*op. cit.*, chap. 84), should be the well-known title of the "god of rain." The explanation is to be found in the text of the Vatican Codex, A. Kingsborough, V, p. 190. This teaches us that the last syllable of the name Tlaloc does not represent oc = inside of, but stands for octli, the name of the native wine now known as pulque, which is obtained from the agave plant. Tlaloc thus meant "earth-wine" and "by this metaphor they wanted to express that just as the fumes of wine make mankind gay and happy, so the earth when saturated with water, is gay and fresh and produces its fruits and cereals." By the light of this explanation we see that the titles conferred upon Montezuma's coadjutor were literally "the priest or lord, or dealer-of-fire in the place of the earth-wine." "The clouds, rain, thunder and lightning were attributed to the lord Tlaloc who had many tlalocs and priests under him, who cultivated all foods necessary for the body, such as maize, beans, etc., and sent the rains so that the earth should give birth to all of its products. During their festival in springtime the priests went through the streets dancing and singing and carrying a shoot of green maize in one hand and a pot with a handle in the other. In this way they went asking for the [ceremonial] boiled maize and all fanners gave them some" ... (Sahagun, book VI, chap. 5).

The above and many scattered allusions throw light upon the group of ideas associated with the Cihuacoatl and clearly indicate what were his duties. To him devolved the care of the earth and his one thought was to secure

abundance of rain and of crops. In order to ensure the proper cultivation of the ground, he had, under him, innumerable agents, who strictly superintended the cultivation of all food-plants, the irrigation of barren lauds, etc. These agents, who also resorted to ceremonial usages in order to bring rain or avert hail-storms and other disasters, were collectively named "the 400 pulque or octli-gods"—an appellation which developed into tochtli-gods, when the rabbit (=tochtli) had become the pictograph habitually employed to convey the sound of the word octli, and had been adopted as the symbol of the earth [pg 079] and of prolific reproduction in connection with this. The latter idea is born out of the female title, that of the earth-mother, who "always brought forth twins." The Cihuacoatl thus stands out as the representative of the bountiful mother-earth and as the lord of agriculture, one of whose duties was the careful collection, storage and distribution of all food products. He presided over the cult of the fertility of the earth, of the nocturnal heaven, of the stars and moon, which were associated with the female principle and with growth in general. The following record proves that amongst his other duties he offered sacrifices to the invisible hidden powers of darkness and earth. "During the night, in the feast Tititl, the high priest named Tlillan tlenamacac [=the dealer with fire in the land of darkness=tlilli=black, evidently a title analogous to that of Tlill-potonqui-cihuacoatl, given by Tezozomoc, in Cronica, chap. 33], sacrificed a victim in honour of the god of the Underworld" (Sahagun, book II, appendix). In this, as on similar occasions, he was assisted by four priests who succeeded him in rank.

Mr. Bandelier has already recognized that judicial sentences were ultimately referred to the "woman-serpent," who pronounced the "final sentence, which admitted of no appeal." There are more reasons than can conveniently be presented here, proving that in Mexico, as in Guatemala, the priest of the Below, the personification of Tezcatli-poca=Shining Mirror,

employed an actual mirror made of polished obsidian, as an aid in pronouncing final judgment on criminals.

The Cakchiquel procedure is described by Fuentes of Guzman, who is quoted by Dr. Otto Stoll in his most instructive and valuable work on the Ethnology of the Indian Tribes of Guatemala (Internationales Archiv für Ethnographie, band I, supplement I, 1888): “A road leads [from the ancient city of Guatemala] to a hill [figured with a large tree growing from it]; on its top there is a flat circular cement floor, enclosed by a low wall. In the centre is a pedestal, polished and shining like glass. No one knows of what substance it is made. This was the tribunal or court of the Cakchiquel Indians, where public trials were held and where the sentences were executed. The judges sat in a circle on the low wall. After the sentence had been pronounced, it had to be confirmed or vetoed by another authority. Three messengers, acting as deputies of the council, went to a deep ravine situated to the [pg 080] north of the palace, where, in a sort of hermitage or prayer-house, there was the oracle of the devil, which was a black, transparent stone, like glass, but more costly than [ordinary] obsidian. In this stone the devil revealed to the messengers, the sentence to be executed. If it agreed with the judgment pronounced, this was immediately executed upon the central pedestal [of the hill of justice] on which the criminal was also tortured, at times.” If nothing was seen in the mirror, and it gave no sign, the prisoner was pronounced free.

This oracle was also consulted before wars were undertaken ... “During the first years of the Spanish occupation, when the bishop Marroquin heard about this stone, he had it cut out and consecrated it as an altar, which is still in use in the convent of San Francisco in the capital. It is a precious stone of great beauty and is half a vara long.”

A picture in the Vatican Codex B (p. 48) represents a temple, on the summit of which a large obsidian mirror is

standing on its edge. Inside the doorway there are many small black spots, which obviously represent small mirrors and convey the idea that the interior walls were incrusted with such. These illustrations would prove that sacred edifices were associated with obsidian mirrors even if Sahagun did not mention, as he does (book II, appendix), no less than three sacred edifices in the great temple of Mexico, which were associated with obsidian mirrors. It is, moreover, stated by Duran that "in Mexico the image of the god Tezcatlipoca was a stone, which was very shining and black, like jet. It was of the same stone of which the natives make razors and knives," *i. e.*, obsidian (Duran II, p. 98).

What is more, Bernal Diaz relates that the image of Tezcatlipoca, which he saw beside the idol of Huitzilopochtli in the hall of the great temple of Mexico, had shining eyes which were made of the native mirrors = tezcatl. "In connection with the shining eyes" of the god it is interesting to note that when, as Duran states, he was represented under another form, his idol "carried in its hand a sort of fan made of precious feathers. These surmounted a circular gold disc which was very brilliant and polished like a mirror. This meant that, in this mirror, he saw all that went on in the world. In the native language they named it 'itlachiayan,' which means, that in which he looks or sees" (Duran, *op. cit.*, vol. II, p. 99).

[pg 081]
Sahagun mentions an analogous sceptre which consisted of "a gold disc pierced in the centre, and surmounted by two balls, the upper and smaller of which supported a pointed object. This sceptre was called tlachieloni, which means 'that through which one looks or observes;' because with it one covered or hid one's face and looked through the hole in the middle of the gold plate." This kind of sceptre is not exclusively associated with Tezcatlipoca in the native picture writings, for it figures in the hand of Chalchiuhtlycue "the sister" of Tlaloc and

of Omacatl whose attributes, the reeds and chalchiuite or jade beads, prove him to be also associated with the water. On the other hand the same sceptre is also assigned by Sahagun to the god of fire.

A clue to the truth and significance of this emblematic sceptre is furnished by the fact that, in order to express the divine title Tlachiuale, meaning "the Maker or Lord of all creatures or of young life," the native scribes were naturally obliged to employ the verb tlachia = to look or see, in order to convey its sound. It is obvious that they cleverly agreed to express this verb by picturing some object which could be or was looked through. They therefore adopted a sceptre with a hollow disc, as an emblem, which was carried by the living representative of certain divinities, whose entire costume was in reality a sort of rebus, and in the case of Tlaloc, the lord of earthwine and fertility and the Tlachiuale or "Creator of young life," par excellence, they once and for all designated his title by surrounding his eyes with two blue rings, accentuating thereby the action of seeing or looking. But this probably conveyed even more than the above title, for there is a Nahuatl noun tlachiuhtli, which means, "something made or formed or engendered," or "earth which is ploughed and sown." Then there is the verb tlachipaua which means, "the smile of dawn, the break of day, the clearing up of the weather," also the purification and cleansing, all of which were supposed to be under the dominion of the rain-god and of his living representatives on earth, the rain-priests. The seemingly conflicting fact that the tlachieloni sceptre was also assigned to the god of fire is explained by the existence of the verb tiachinoa = to burn up the fields or forests, and of the noun tlachi-noliztli = the act of burning up or scorching the fields or forests, and finally, metaphorically, tlachinoli-teuotl = war or battle = destruction. It is only when we thus realize all the natives could express by the image of an eye, looking through a [pg 082] circle, that we begin to grasp its full meaning when employed as a symbol in their picture writings.

As to the obsidian mirror, which undoubtedly was the symbol of Tezcatlipoca and, consequently, must have pertained to his representative, the priest of the Night, we find that it played a most prominent rôle in the cult he presided over. In the first case it appears as though it was resorted to in Mexico as in the conquered province of Guatemala, as the oracle which rendered final judgment. A series of illustrations, etc., to be published in my final work on the Calendar System, will prove satisfactorily that the Mexican astronomers extensively employed black obsidian mirrors as an aid to astronomical observations, by means of reflection. Besides mirrors on the summits of temples and mountains, certain square columns, placed on an elevation and faced with a broad band of polished obsidian, are pictured in some Codices. It is obvious that the latter in particular, if carefully oriented, would have served as an admirable means of registering the periodical return of planets, stars or constellations to certain positions; they would then be reflected on the polished surface, as in a frame. In certain Codices the double, tau-shaped courtyard or enclosure surrounded by a high wall with battlements, which was employed in the daytime for the national game of ball, figures in combination with obsidian mirrors. I draw attention to the fact that the name of these courtyards was tlach-tli, which literally means the looking place = the observatory and that, amongst the edifices of the great temple, a tezca-tlachtli = obsidian-mirror-observatory, is described. I shall demonstrate more fully, on another occasion, that the chief purpose of these enclosures was to serve as astronomical observatories. Dr. Brinton, Señor Troncoso and other authorities have already observed that the game of ball itself was intended to represent the idea of the perpetual motion of the heavenly bodies. (See American Hero-myths, p. 119.)

Returning to reëxamine the divine title Tezcatlipoca we see that, when interpreted as “the lord of the shining obsidian mirror,” it was the most appropriate title of the lord of the Nocturnal Heaven, which myriads of mirrors

reflected each night, throughout the land. It is easy to see how the habit of referring to the Temple Minor, in order to ascertain the positions of the stars, would naturally lead to its being consulted more extensively as an oracle later on. We thus clearly perceive how the lord of the [pg 083] Night, whose priests called themselves “the sons of the Night,” became intimately associated with divination and how the idea of a definite connection between the movements of the stars or human destinies would, in the lapse of centuries, make a deep and indelible impression upon the minds of men.

If the obsidian mirror was the symbol, par excellence, of Mexican star cult, there are evidences that the small mirror of polished pyrites was that of the sun-cult. The latter seems to have been employed, in some way or other, for the concentration of the rays of the sun required for the lighting of the sacred fire, at noon, on the days of the vernal equinox and summer solstice. As in Peru, this duty devolved upon the high priest of the Above or the Son of the Sun, a title which undoubtedly pertained also to the Mexican ruler, though not employed so ostentatiously as in Peru. A keen emulation, which may almost be termed an intense rivalry, seems to have existed between the two cults, which Sahagun even goes so far as to designate as two religions. From a chapter of his Historia we even learn that the entire population of Mexico was divided into two halves who respectively belonged to one or the other religion, a fact which naturally affected the position of the two classes of people and had created the native ideas, of an upper and a lower class or caste which will be further discussed.

Sahagun's informants explained to him that, when a child was born, its parents, according to their class, registered it at one of the two educational establishments for the young and took vows to have it educated there as soon as it attained a suitable age. The lower class took their offspring to the Telpuchcalli, where they were dedicated to the service of the community and to warfare, *i. e.*, the

ruling class. “The ‘Lords, chieftains or elders,’ offered their sons to the Calmecac to be educated for the priesthood.”

It being impossible to present here in full the data showing how certain primitive conceptions had developed further and how some human occupations had become associated with the Above and others with the Below, I will but point out the important fact that the city of Mexico, divided into four quarters, each of which had five subdivisions (calpullis), actually consisted of two distinct parts. One of these was Mexico proper, where the Great Temple stood and where Montezuma and the lords resided; the other was Tlatelolco, where the lower classes dwelt and the merchant class prevailed. After a certain revolt the inhabitants of this portion [pg 084] of the city were, we are told, “degraded to the rank of women” (see Bandelier, *op. et loc. cit.*). From this it would seem evident that their affairs or lawsuits were settled in the official house named the Cihua-tecpaneca, whilst the affairs of the nobility, residing in Mexico proper, were disposed of in the Tlaca-tecpaneca (see Duran, chap. 3). Knowledge of the prevalence of the division of the population into two parts is gained through a passage of Ixtl-ilxo-chitl's Historia (chap. XXXV, p. 241): “To Quetzalmemalitzin was given the lordship of Teotihuacan ... with the title of Captain-general of the dominion of the noblemen. All affairs or lawsuits of the lords and the nobility belonging to the towns of the provinces situated in the plain, were to be attended to and settled in his town. The same title was bestowed upon Quechaltecpantzin of Otompan, with the difference that he was the captain-general of the commoners and attended to the affairs and claims of the commoners and populace of the provinces in the plains.”

A further detail concerning the position of the ancient capital of Mexico should not be omitted, for it is described as follows by the English friar Thomas Gage, who visited it in 1625: “The situation of this city is much like that of Venice, but only differs in this, that Venice is

built upon the sea-water, and Mexico upon a lake, which seeming one is indeed two; one part whereof is standing water, the other ebbeth and floweth according to the wind that bloweth. That part which standeth is wholesome, good and sweet, and yieldeth store of small fish. That part which ebbeth and floweth is a saltish bitter and pestiferous water, yielding no kind of fish, small or great" (p. 43). Added to other data, this detail seems to indicate that the geographical position of the capital had been chosen with utmost care and profound thought, so that, built on a dual island on a dual lake, it should be in itself an image or illustration of the ideas of organization which I have shown to have dominated the entire native civilization. If it be admitted, as I think is evident, that the site of the capital was chosen and mapped out in accordance with these ideas, then we undoubtedly have, in ancient Mexico, not only one of the most remarkable "Holy Cities" ever built by mankind, but also the most convincing proof of the great antiquity and high development of the civilization under whose influence one of the greatest capitals of ancient America was founded.

It is impossible to read the following descriptions without recognizing [pg 085] that the identical fundamental ideas had undoubtedly determined the native topography of capitals situated in other parts of the continent. Beginning with Guatemala, which formed a part of ancient Mexico, I refer to the plan of the ancient capital and its description by Fuentes of Guzman, published by Dr. Otto Stoll in his work already cited: "A deep ditch, running from north to south, divided the town into two portions. One of these, situated to the east, was inhabited by the nobility; whilst the commoners (Macehuales) lived in the western division." I pause here to call attention to the intentional coincidence that the association of the east with the Above, and the west with the Below, is exemplified here, topographically. The plan shows that the eastern half contained, in its centre, a great, oblong enclosure, surrounded by a high wall. A wall, running from east to

west, divided this enclosure into two distinct courtyards with wide separate entrances from the west. The northern courtyard, designated as the “Place of the Palace,” contains several buildings. The southern one, named the “Place of the Temple,” contains an edifice on a terraced mound and several others. It is noticeable that, in the exact middle of the central wall, there is a seemingly double, unfortunately indistinguishable object, or building, which marks the exact middle of the entire dual enclosure. It is particularly interesting that the East City is divided into two portions by a wall running from the southeast angle of the wall of the Temple courtyard to the outer wall of the city. The southern half, in which the “Tribunal or hill of justice is to be seen, is designated as containing the houses of the Ahauas or heads of the Calpuls.” The northern half, containing many houses, lacks designation. The West city is likewise divided into two distinct portions by a broad street, enclosed by a hill wall and conducting from the western and only entrance to the city directly to the Place of the Temple. A deep trench or ditch encloses the entire city, whilst nine watch-towers, on small hills, are placed at equal distances around it.

If this precious document clearly reveals the ground plan on which the native capitals were built, in accordance with the dominant idea, the following native map shows that the ancient dominion of Yucatan, for instance, was figured as an integral whole with form of a flat disc divided into four quarters, Ho, the modern Merida, in its centre. This map, copied from the native Codex Chumazel, has been published by Señor Crescencio Carillo of Ancona [pg 086] in the Anales del Museo Nacional de Mexico, vol. II, p. 43, as showing the territorial division of Yucatan before the Conquest (fig. 27). According to Herrera and Diego de Landa, the unity of the dominion was destroyed about two centuries before the Conquest by the destruction of the capital, Mayapan. The land then remained divided amongst many independent chiefs or Bacabs. Señor Carillo renders the

Maya descriptive text written under the map, as follows: “Here is Mani. The beginning of the land, or its entrance, is Campeche. The extremity of the wing of the land is Calkini; the (chun) place where the wing grows or begins, is Izamal. The half of the wing is Zaci; the tip of the wing is Cumkal. The head of the land is the city, the capital Ho.”

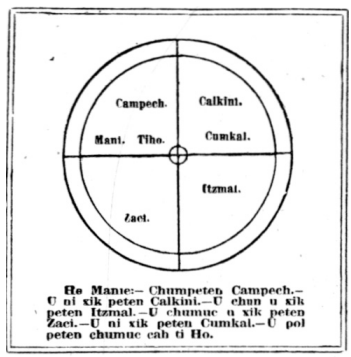


Figure 27.

The foregoing text shows that, notwithstanding the circular shape in which it is figured, the dominion was evidently thought of as in the form of a bird, the head of which was the capital.

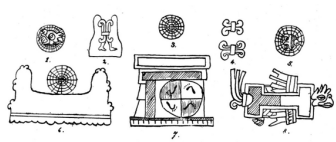


Figure 28.

This figure of speech seems to have been prevalent in

Mexico also and to be conveyed by the representation, in the Vienna Codex, of a double tau-shape to which the head, wings and claw, and tail of a quetzal are attached (fig. 28, no. 8). As I shall have occasion to demonstrate further on, the double tau signifies the Above and the Below and their union forming an integral whole. The following Nahuatl terms explain by themselves the symbolism of [pg 087] the bird-figure: cuitlapilli = the tail of an animal or bird, atlapalli = the wings of a bird, or the leaves of a tree, cuitlapalli atlapalli = vassals, the populace or lower classes, the laborers.

These words furnish irrefutable evidence that the lower class was familiarly known in Mexico as “the wings and the tail” of the commonwealth or state, or the leaves “on the trees” of the tribe. Sahagun states, on the other hand, that the Mexicans employed the metaphor of “a bird with wings and a tail” to designate a lord, governor or ruler. He also records that the terms hair, nails, a thorn, a spine, beard and eyelashes, were used to signify “someone who was noble, generous or of the lineage of the lords.” Such metaphors as these may well cause us to despair at arriving at a complete understanding of the native imagery and symbolism. The symbolism of the bird's claw yet remains to be looked into. The Nahuatl for the same is xo-maxaltic, xo-tzayanqui or cho-cholli.

In one of the ancient Mexican harangues, previously quoted, it is said of the supreme ruler that he had been given “fangs and nails” in order to inspire fear and reverence. Scattered evidence and the fact that in the Codex Mendoza the decorated claws of an eagle, for instance, appear as a military device on the shields of certain war chiefs, seem to indicate that the warriors were spoken of, metaphorically, as “the claws or nails” of the state. The following passage finally proves that the tlachtli or courtyard the shape of which was a double tau, as in fig. 28, no. 8, was regarded by the Mexicans as an image of the state itself. In another native harangue it was said of the newly-elected ruler: “He is now placed or

put into the Tlachtli, he has been invested with the leathern gloves, so that he can govern and throw back the ball to the one who throws it to him in the game. For the business of governing very much resembles this game and the game of dice" (Sahagun, book VI, chap. xiii). The latter game alluded to, the patolli, was played on a mat in the shape of a cross, marked off with divisions, with stone markers, the moves of which were decided by the numbers obtained on casting the dice, which consisted of beans with marks on them. It is interesting to find that the word pat-olli seems to be connected with the verb pat-cayotia = to be substituted in the place of another, or to succeed another in office or dignity. The above comparison of the game to the business of governing indicates that a feature of the government was a methodical [pg 088] succession or rotation in office or dignity, a point to which I draw special attention, as I shall refer to it later.

The evidence that the Mexicans regarded the form of the courtyard, named tlachtli, as that of the state itself is noteworthy. On the other hand, the native map contained in the Codex Mendoza, p. 1, shows us that they figured their territory as a square, surrounded by water and divided into four equal parts by diagonal cross-streams or canals. As in the Maya map the centre of this is occupied by the well-known hieroglyph or rebus of Te-noch-ti-tlan, the ancient capital, which consisted of Mexico and Tlatelolco. In three of the four triangular divisions, two chieftains are figured, whilst in one there are four, the complete number of chieftains thus being ten. The incontrovertible evidence that the dominion of the Mexicans, as well as that of the Mayas, was figured and regarded as an integral whole has seemed to me to be of extreme importance, because it points to a fresh interpretation of the much-discussed meaning of the name Tullan, "the glorious centre of culture where the high priest Quetzalcoatl, had dwelt and whence he had been driven by the wiles of his enemies. It is a place that we hear of in the oldest myths and legends of many and

different races. Not only the Aztecs, but the Mayas of Yucatan and the Kiches and Cakchiquels of Guatemala, bewailed in woful songs, the loss of that beautiful land and counted its destruction as the common starting-point in their annals.... According to the ancient Cakchiquel legends, however, ... 'there were four Tullans, as the ancient men have told us.' The most venerable traditions of the Maya race claimed for them a migration from Tullan in Zuyva."... "When it happened to me," says Friar Duran, "to ask a [Mexican] Indian who cut this pass through the mountains or who opened that spring of water or who built that old ruin? the answer was: The Tultecs, the disciples of Papa," *i. e.*, Quetzalcoatl. (See Brinton, American Hero-Myths, p. 88.) Considering that the identity of Tullan has not yet been satisfactorily established, that several Tullans are said to have existed and that a small town, about a dozen leagues to the northeast of Mexico, is named Tullan-tzinco = little Tullan, I should like to direct the attention of Americanists to the following Maya words: Tul-um = fortification, edifice, wall and enclosure. Tula-cal, Tuliz, adjectives = whole, entire, undivided, integral. Tul-ul, adjective = general, universal. Tul-tic, verb = to belong, to correspond to something. Tul = all [pg 089] around or full. Tul = in composition, to have abundance. Tulnah = to be too full, to overflow, to proceed, to issue, abound, high-tide. Tulaan = past participle of tul.

I am of opinion that, after carefully examining the foregoing words and their meanings, we must admit that an intelligible and satisfactory derivation and signification of the much-discussed Tula of the Mexicans, which has been vainly sought in the Nahuatl language, are obtained if we connect it with the Maya words for fortress, or stronghold, an enclosed place, an integral whole, an overflowing source of abundance and plenty. If we do this, then the problematic term Tolteca, given by Mexicans to the superior people from whom they had derived their culture and knowledge, means nothing more than such persons who had belonged (Maya verb tultic)

or were members of a highly cultured commonwealth or ancient centre of civilization, such as had flourished during countless centuries, in Yucatan and the present Chiapas, Honduras and Guatemala.

Reserving this subject for future, more detailed, discussion, I point out that the name Ho, given to the capital, which is designated in the map as the "head of the land," is obviously derived from the Maya hol, hool, or hoot, which means not only head but also chieftain. The circumstance that a single word, Ho, conveyed the triple meaning of a capital, a chieftain and a head, is particularly noteworthy, as it affords not only important clues to native symbolism, which I shall trace later on, but also shows that the presence of the syllable Ho or O, in certain native names of localities, may possibly indicate that it was a capital, the residence of a chieftain. Further light is shed upon the following native association of ideas when the following words are studied. The ancient Maya name for a pyramid or artificial mound was ho-m and the pyramidal elevations on which temples or palaces were built were designated as ho-mul or o-mul (see Vocabulary, Brasseur de Bourbourg). The title Holpop was moreover that of the "chieftain of the mat," whose prerogative it was to sit on a mat and to beat the sacred drum during the public dances or ritual performances (Cogolludo). The ancient word for vase, vessel or cup in general was ho-och, whilst o-och meant food or maintenance (Arte de la lengua Maya, Fray Beltram de Santa Rosa, ed. Espinosa, Merida, 1859). If the foregoing data be summarized we find that the word ho, the ancient name of the head of the land, which is [pg 090] figured in its centre, is not only homonymous with capital and chieftain, but also with pyramid, vase or receptacle and maintenance, and finally with the numeral 5, also "ho." We shall see that the identical ideas were similarly associated in ancient Mexico.

Referring once more to the ancient map of Yucatan and to the peculiarity that the head of the figurative bird, the

capital, Ho, is supposed to occupy the centre of the state, I point out nos. 1 and 5 (fig. 28) from the Bodleian and Selden MSS. as somewhat analogous representations of a central capital or chief, and nos. 3 and 6 as possibly being images of a territorial subdivision of the state, resembling a spider's web. In an unpublished Mexican MS., which has been recently brought to light, the middle of the concentric circles is painted blue and suggests the idea of a system of distribution or irrigation, proceeding from a central supply of water and radiating in all directions. An accentuation of centrality is brought into relief in fig. 28, no. 6, where the spider's web is placed in the middle, between the two peaks of a mountain. In no. 2 a small quadruple sign, which frequently occurs in the Vienna Codex, always painted in the colors of the four quarters and united by a cross-band across the centre (no. 4). also figures between two peaks, above two feet, the significance of which I do not venture to determine. A remarkable circular disc resembling the Maya map, and also divided into four parts by cross lines, but exhibiting footsteps denoting rotation, is represented in the entrance of a temple, in the Vienna Codex (fig. 28, no. 7). These figures will be referred to again further on.

Let us now bestow attention upon the names of the Mexican capital and first note that the edifice of the Great Temple, in which the Cihuacoatl performed an annual ceremony already mentioned, was called tlal-xic-co, literally “in the navel of the earth or land” (from tlalli = earth, land or country, xictli = navel and co = in) (Sahagun, book II, appendix). Besides this edifice there was, in the middle of the lagoon of Chalco, an island, which, to this day, bears the name of Xico = in the navel or centre. This indicates the curious circumstance that the edifice and island had apparently been regarded as forming “ideal centres,” and shows that the name of Mexico itself may have been associated with the same conception being, as it was, the central seat of government. Gomara states that “the city was divided into two halves or parts, one named Tlal-telolco = small

island (literally, 'in the earth-mound') [pg 091] and the other named Mexico, which means 'something which flows,'" (Histoire Généralle des Indes, Paris, 1634, chap. 38). The Nahuatl word alluded to can be no other than the verb memeya which, according to Molina, signifies "water, or something liquid which issues or flows in many directions." I have already pointed out that the Maya words to express water which rises and overflows, high tide and, by extension, abundance and plenty, are tul, tulnah and, finally, tulaan, past participle of tul. If the particle "me" conveyed the above idea, its combination with xico would cause the name Mexico to be replete with significance and to mean "the figurative centre whence all maintenance proceeded and flowed in all directions, throughout the land."

The Borgian Codex furnishes representations of identical meaning. On page 4 a human body, the centre of which forms a large red disc, is stretched across the double tau-shaped tlachtli which obviously represents the four quarters, being painted with their four symbolic colors. It is particularly noteworthy that the limbs of the central figure are represented as wearing the green skin of a lizard, while its face is enclosed in the open jaws of the reptile. It should also be noted here that whilst the Nahuatl names are cuetz-palin and topitzin, the Maya term for lizard is mech or ix-mech. On the same page a similar, but smaller, figure is depicted on a background representing the nocturnal heaven. On the following page the figure of a dead woman is stretched on a red disc whilst a priest is drilling the fire-stick into a circular symbol, with four balls, which is the well-known symbol for chalchiuitl = jade. As the name of the female water goddess is Chalchiutlycue, this detail is significant and will be referred to later on. It is noteworthy that on both pages 5 and 6 the performance of the above rite is accompanied by the image of the goddess of the earth and underworld, represented with a death's head, and with her hair strewn with stars. Her body is that of a green lizard, and she carries ears and blossoms of maize

and holds a blue garment on which the chalchihuitl symbol figures.

In connection with representatives of the human form outstretched in sacrifice, on whose body the rite of kindling the sacred fire or of extracting the heart is being performed, it seems evident that, under the dominion of the fundamental ideas I have been discussing, the native sages regarded and utilized the human form as an image of the Middle and Four Quarters. It is well known [pg 092] that the number 20 was termed “one count” and connected with the number of fingers and toes, distributed equally on his four extremities. The human victim thus formed a living swastika or cross and became not only the consecrated image of the supreme, creative, central divinity who controlled the Four Quarters, but also an image of the central government with its supreme ruler; whilst the four chiefs of the Quarters were symbolized by the four limbs. Each of these terminated in a symbolized group consisting of a hand, maitl, with a thumb (=touey mapilli or vei mapilli, literally, the great finger, or our great finger) and four fingers (mapilli); or of a great toe, touei xopil or topec-xopil (literally, our great toe, or our lord toe) and of four toes=xopilli.

Figure 29.

The above association of ideas was doubtlessly accentuated by the fact that the word pilli means a nobleman, a chieftain; thence he terms pilconetl = the son of a nobleman and pilhua = he who has sons (pil in this case meaning son and hua = possessor of). This latter fact could have been very aptly conveyed in the picture-writings by employing fingers to express the sound "pilli." The number of sons a chieftain had could thus be easily expressed by his exhibiting a corresponding number of fingers. I shall revert to this possibility presently, and now referring to fig. 29, no. 2, direct attention to the obvious intention to express the idea that the fire produced was distributed to the four quarters by means of the figures, painted in symbolical colors, three of which are visible. Another picture in the same Codex represents four similar figures springing towards the cardinal points from a source or fountain of [pg 093] water, whilst a priest above a triangular cloak[7] holds a pair of weapons (?) in his hands (fig. 29, no. 1). If carefully studied, these groups seem to corroborate the derivation of the name Mexico, given above. What is more, the first group affords an explanation of the meaning and purpose of three strange recumbent stone figures bearing circular vessels, which have been respectively found in Mexico, Tlaxcala and Chichen-Itza and are now preserved at the National Museum in Mexico. They furnish the most convincing proof that an identical cult and symbolism had existed in

these widely-separated localities. The conclusion I have previously expressed, that an actual connection had been established between Chichen-Itza and Mexico by the Maya high priest Kukulcan, or Quetzalcoatl, is thus corroborated by undeniable evidence, which will be supplemented later on.

The three monoliths have been described and illustrated in the Anales del Museo Nacional, Mexico, vol. 1, p. 270, by the late Señor Jesus Sanchez, and are here reproduced. The statue exhumed at Chichen-Itza by Dr. Le Plongeon (pl. IV, fig. 1) closely resembles that found at Tlaxcalla in Mexico (pl. III, fig. 2). Dr. Brinton, who erroneously describes the Chichen-Itza statue as representing "a sleeping god," points out the extremely important fact that there was a divinity worshipped in Yucatan called Cum-ahau, "the lord of the vase," who is designated in a MS. dictionary as "Lucifer (the lord of the underworld) the principal native divinity." He adds there is good ground to suppose that this lord of the vase ... was the god of fertility common to the Maya and Mexican cult (Hero-Myths, p. 165). Considering that the great market-place in the capital was actually the centre to which the entire product of the land was periodically carried from its remotest confines, was there classified, exchanged or distributed far and wide, the comparison to a central flowing source of maintenance was most appropriate.

That some particular spot in or near the city should have gradually assumed importance and sanctity as marking the exact centre of the metropolis, *i. e.*, of the integral whole of the Mexican [pg 095] "empire" is but natural and it is not surprising to find that solemn rites were performed on this spot. In one of the chronicles to which I shall revert, it is stated that the New Fire was at times kindled on the prostrate body of a slave, and this curious statement is corroborated by a picture in the Borgian Codex, showing a priest producing fire from a circular vessel placed on the body of a victim beneath whom a face enclosed in the open jaws of a reptile, is visible (fig.

29).

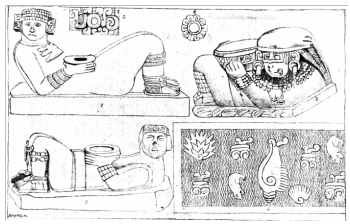


Plate IV.

Dr. Le Plongeon, to whom much credit is due for its discovery, identified the Chichen-Itza statue, for reasons not fully explained, as a portrait of Chac-Mool, or Lord Tiger, and relates that it was found at a depth of eight metres, not far from the base of the Great Pyramid Temple. A statue of a standing tiger, with a human head and a shallow depression in its back, was also found near the same spot. I have seen other sculptured figures of human beings holding a vase, as at the hacienda near Xochicalco, Mexico, and of tigers, with circular depressions on their backs, and hope to be able to reproduce their photographs on another occasion.

The most elaborately sculptured recumbent statue is undoubtedly that which was found in or near the city of Mexico (pl. IV, fig. 3). The under surface of its base (pl. IV, fig. 5) is entirely covered with zigzag water lines and representations of roots of plants, figured as in the Codices; shells, one kind of which is the well-known symbol of parturition, and frogs which are intimately associated with water symbolism. On the hair of the statue a flower-like ornament is carved (pl. IV, fig. 4) in connection with which it should be noted that the Nahuatl for flower is xochitl, pronounced hoochitl, resembling the Maya hooch = vase. The small groups of five dots forming a border around the circular vessel are

noteworthy, as they are likewise sculptured on the calendar-stone. The characteristic scrolls about the eyes of the figure show that it personates tlaloc, or earth-wine. The fertility of the earth, caused by rain, is symbolized by the wreath of ears of corn and reeds (Nahuatl, *tollin*) which is sculptured around the base of this, one of the most remarkable of ancient American monuments.

Señor Sanchez cites Torquemada (Monarquia Indiana, vol. II, p. 52) as the only authority who mentions a recumbent image or idol and relates that, "in the city of Tula, there was preserved in the great temple, an image of Quetzalcoatl ... he was figured as lying down, as though going to sleep.... Out of [pg 096] reverence the image was covered with mantles or cloths.... They said that when sterile women made offerings or sacrifices to the god Quetzalcoatl, he immediately caused them to become pregnant...." He was the god of the Winds which he sent to sweep or clear the way for the tlaloques = "the earth-wine" gods.

Señor Sanchez also quotes Gama, who, basing himself upon Torquemada's authority, maintains that Tezcatzoncatl, the principal rain or octli-god, was figured as lying in an intoxicated condition, holding a vase of pulque in his hands. To the above data I add the description by Bernal Diaz, of a "figure in sculpture" he saw on the summit of the great temple of Mexico: "It was half man and half lizard (lagarto), was encrusted with precious stones and one-half of it was covered with cloths. They said that half of it was full of all the kinds of seeds that were produced in the entire land, and told [me] that it was the god of sown land, of seeds and fruits. I do not remember his name...." (Historia Verdadera, p. 71). It may be as well to note, that the Nahuatl names for lizard, cuetz-palin and topitzin, approximately convey the sound of the first syllables of the name of the culture-hero Quetzalcoatl, and of the title "topiltzin" bestowed upon him. It must, of course, remain a matter of conjecture whether the lizard was possibly employed in the above

case as a pictograph, to express the sound of its name. One thing seems certain, that the Tula image of Quetzalcoatl, to which divinity barren women directed their invocations, and the statue described by Bernal Diaz as that "of the god of seeds, fruits and cultivated land," were undoubtedly analogous to the sculptured recumbent figure found in Mexico, and exhibiting the symbols of Tlaloc, or earth-wine, of maize, and of parturition. Bernal Diaz further relates that the said image was kept on the uppermost terrace of the Great Temple, in one of five "concavities surrounded by barbacans or low walls the wood-work of which was very richly carved" (*op. et loc. cit.*).

The inference to be drawn from the foregoing data is that the Mexicans and the Mayas habitually kept, on the summit of their principal temple, in their centres of government, a statue holding a circular vessel and figuratively representing the "navel or centre of the land." The group of ideas already traced in the Maya ho = capital, hom = pyramid, ho-och = vessel, o-och = maintenance, [pg 097] ho = 5, thus proves to be completely carried out, for, on this consecrated spot, which emblematized the source whence all life proceeded, sacred emblematic rites were performed, the purpose of which was to typify the union, in the centre, of the four elements requisite for the productiveness of the earth.

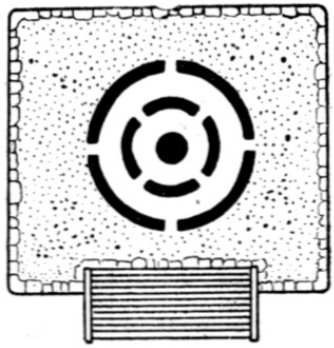


Figure 30.

The ground plan of the Caracol or Round Temple of Chichen-Itza, which was built, according to tradition, by the high priest Quetzalcoatl, carries out the idea of the middle and of the four quarters in so obvious a manner that it may safely be assumed that it represented the supposed centre of a dominion (fig. 30). Referring the reader to the interesting description of this remarkable edifice in Mr. William Holmes' valuable work already cited, I note that round temples, dedicated to Quetzalcoatl, are recorded to have also existed in Mexico. It seems probable that, at certain festivals, the living representatives of the Above and Below performed certain sacred rites on the summit of one of these circular edifices. It is obvious that such rites could only have been fitly performed by the coöperation of both twin rulers or Quequetzalcoas, each of whom personified two elements. The appropriate season for such rites would be that when the necessity of insuring a successful harvest would seem most urgent. It is a recorded fact that the most solemn festivals of the year were held between the vernal equinox, on which date the ritual year began, and the fall of the first rain which usually occurs about the middle of May. It is extremely significant that at this precise period the festival toxcatl took place (*cf.* Maya thoaxol or thoxol = distribution, giving each one a little, and o-och = food or maintenance) during which Tezcatlipoca

and Huitzilopochtli were jointly honored. During this festival the "sacred dough," named tzoalli, was a prominent feature of the ritual and it was undoubtedly associated with the idea of the life-giving union of the four elements, the Above and Below, or the male and female principles.

It can, moreover, be directly connected with the recumbent statues representing the centre; for, whilst Bernal Diaz recorded that the statue on the summit of the Great Temple held a collection of all the seeds of the land, Cortés, in his descriptive letter, gives us [pg 098] an important detail which evidently applied to the identical statue. He relates that "the bodies of the idols are made of a dough consisting of all the kinds of seeds and vegetables that these people ate. These are ground, mixed with each other and then moistened with the blood of the hearts of human victims ..." (*op. cit.* p. 105). Sahagun relates that an image of the earth goddess, under the title of Seven-serpents or twins, was made of this sacred dough and that offerings of all kinds of maize, beans, etc., were made before it "because she is the author and giver of all these things which sustain the life of the people" (book II, 4). It is well known that the dough images were broken into small pieces and these were distributed to the priests and people, who partook of the substance after having prepared themselves by fasting, for the sacred rite. I draw attention to the fact that the above sacred substance is but the natural outcome of the primitive notion already mentioned, which led the hunters to spill blood upon the earth, to obtain its increased fruitfulness. An insight having been thus obtained of the origin of blood sacrifices in ancient America, it is possible to understand the meaning of certain representations showing the performance of ritual blood-offerings.

On the well-known bas-relief preserved in the National Museum of Mexico, and illustrated in the Anales (vol. I, p. 63), the two historical rulers of ancient Mexico, who figure as Quequetzalcoas, or divine twins, in exactly the

same costume, are sculptured with blood flowing from their shins and in the act of piercing their ears with a sharp bone instrument. Two streams of blood descend from these and meet before falling into the open jaws figured beneath an altar, on which two conventionalized flowers appear. The two rows of teeth = tlantli, convey the sound of the affix tlan = land of, or tlalli = earth. But the most remarkable and striking instance of the group of ideas we have been studying is found on p. 62 of the Borgian Codex. On a background formed by a pool of water, there is a group which represents the "earth-mother" lying on a band of lizard-skin, with two maize plants issuing from her body and growing into a large two-branched tree, in the centre of which is a flint-knife or tecpatl. A bird stands on its summit and its branches terminate in maize plants. Its growth is being furthered by the two streams of blood which proceed from two human figures, standing at each side of the tree. One is painted black and evidently represents [pg 099] the Lord of the Below; the other is painted blue-green and represents the Lord of the Above. The blood-sacrifice they are jointly offering is that mentioned in the "Lyfe of the Indians," as performed in order to obtain generation. Unquestionably this symbolical group would have been equally intelligible to Mayas or Mexicans, since the ideas it expressed were held in common by both people.

Before proceeding further it is necessary to state that after the native philosophers had, for an indefinite period of time, been satisfied with the artificial division of all things into four quarters, corresponding to the cardinal points and elements, the idea of the Above and Below gradually grew in importance, whilst prolonged thought and observation disclosed that the above classification demanded revision. On carefully investigating the attributes of the principal ancient Mexican deities or personifications of the elements we see that the native thinkers had found themselves obliged to make a distinction between the different forms of each element, having realized, for instance, that water not only fell to

earth from the heaven, but also issued from the depths of the earth in the form of springs or fountains, and formed rivers and lakes. The final conclusions they reached in this instance are best explained by the fact that the name of the god Tlaloc means earth-wine or rain only, and that his sister “Chalchiuhtlycue” appears as the personification of wells, springs, rivers and lakes. It is evident that the classification of the ocean or sea must have given rise to much serious thought. We know how the problem was solved by the fact that the Nahuatl name for the ocean is “ilhuica-atl” = heaven-water. Accordingly, the rain and the ocean pertained to the heaven, the Above and male principle, whilst the wells, springs, rivers, etc., belonged to the earth, the Below, the female principle.

As in this case, so it was with the other elements, each of which was finally personified by a male deity and his female counterpart, which, in some cases, tended to represent its distinctive and beneficent properties. As these deities are separately treated in my commentary of the “Lyfe of the Indians” and lack of space forbids my discussing them here, I shall but mention that the ultimate native systematization of the elements, each of which was thought of as an attribute only of supreme and central divinity, corresponds exactly to that held by the Zuñis of to-day and set forth in the following account given by Mr. Frank H. Cushing and [pg 100] quoted in Dr. Brinton's “Native Calendar of Central America and Mexico” (p. 8). In quoting it I draw special attention to the numerical divisions given, as this is absolutely essential for the understanding of the statements I shall make, further on, concerning the origin of the native Calendar-systems.

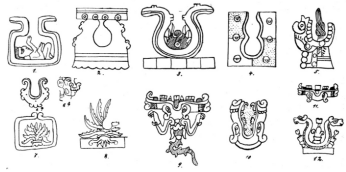


Figure 31.

“In the ceremonies of the Zuñis the complete terrestrial sphere is symbolized by pointing or blowing the smoke to the four cardinal points, to the zenith and nadir, the individual himself making the seventh number. When the celestial is also symbolized, only the six directions are added to this seven, because the individual remains the same, so that the number typifying the universe, terrestrial and celestial, becomes 13. When, on the other hand, in their ceremonies, the rite requires the officiant to typify the supra- and intra-terrestrial spheres, that is, the upper and lower worlds [the Above and the Below], the same number 13 results, as it is held that in each the sun stands for the individual, being in turn the day sun and night sun, the light and dark sun, but ever the same and therefore counts but once.”

After having gained this knowledge of native speculative philosophy, let us penetrate still further into their modes of thinking by studying, first of all, a series of symbols of the earth-mother taken from one of the most valuable of Mexican MSS., the Vienna Codex (fig. 31). In these the idea of the vase, bowl or receptacle and of the serpent predominates. It is instructive of native thought to find the vase represented as containing a child (no. 1), an agave plant (no. 7), a fire, denoting warmth (no. 3), a flower (no. 12), [pg 101] and a bunch of hair, the numerical symbol for multiplicity = the number 400 (no. 5). In no. 2, the hollow between two recurved peaks conveys the idea of a central vase; a band with eyes rests upon the peaks and denotes the heaven. No. 4 shows a double vase, enclosed in a similar representation of the nocturnal heaven—the idea to be conveyed being

evidently that of a receptacle hidden in darkness. No. 9 displays an open jaw, two claws, a human heart and a stream of blood issuing from it. Nos. 10 and 11 present different shapes of the serpent's jaw, the symbol of the earth.

The double-headed serpent forming a vase containing a flower (no. 12) is particularly interesting because the flower = xoch-itl in Nahuatl, seems to suggest an intentional likeness to the Maya word for "vase, vessel or cup in general," ho-och (Arte de la lengua Maya, Fray Pedro Beltran de Santa Rosa, ed. Espinosa, Mérida, 1859) as well as hoch or o-och = "food and maintenance." The symbolical vase-like opening in the core of the agave plant, (no. 8) is such as is made to this day, in order to collect the juice, which, when fermented, constitutes the sacred wine of the ancient Mexicans, octli, now better known as pulque.[8] As will be shown the Mexicans considered this as "the drink of life." Its use was rigidly regulated and supervised by the "octli-lords" or "rain-priests" who distributed it at certain dances, in order to induce a state of mild intoxication amongst the participants.

As in the case of the Zuñis and Tarahumari Indians of the present day, referred to by W J McGee, in his valuable and instructive article on "The beginning of Marriage" (the American Anthropologist, vol. IX, no. 11, p. 371), "certain ceremonials typifying the fecundity of the earth and of the leading people thereof" were performed by the ancient Mexicans. These public ceremonials had also been "apparently developed to the end that the tribes and peoples might be encouraged to increase and multiply and possess the fecund earth." They took place at the period of the year when the heaven and earth were also supposed to unite, *i. e.*, at the beginning of the rainy season. During this the ordinary out-door occupations of the agriculturist and hunter were forcibly interrupted and the regular and periodical transportations of produce and tribute [pg 102] to the capital became impossible, owing

to torrential rain, swollen rivers and impassable roads. This period of enforced shelter and confinement indoors seems to have become the definite mating season of the aborigines. At the same time the union of the sexes had obviously assumed a sort of consecration since it was intimately associated with the cosmical, philosophical and religious ideas and coincided with what was regarded as the annual union of the elements or of the Above and Below, the heaven and earth.

At that period of its history, when the Aztec race was jointly governed by a priest, personifying the heaven and a priestess, "his wife and sister," who personified the earth, some form of sacred marriage rite must have been annually performed. The consecrated character of their union must have naturally caused their offspring to be regarded as of a holy and almost divine origin. It is easy to realize, therefore, how, in ancient Mexico, the artificial idea of "superior birth" came into existence, how a family or caste of rulers gradually developed, the members of which were entitled "teotl" = divine, whilst the men were regarded as "the sons of Heaven" and the women "the daughters of Earth." It is obvious from this that the periodical union of the sexes, accompanied as it was, by sacred dances and the distribution of sacred wine, must have gradually assumed a semi-religious character, whilst the ritual nuptials of the "divine" rulers, typifying, as it obviously did, the grand and impressive phenomenon of the rainy season, must have caused this marriage to assume the character of a hallowed rite and surrounded it with the most elevated and intense religious sentiments of which the native mind was capable.

After this recognition of the diverging influences which guided the development of primitive marriage institutions, we will return to the rain-priests or "octli-lords," of whom it is repeatedly stated that there were four hundred, a number corresponding to an assignment of 100 or 5×20 to each of the four provinces or divisions of the commonwealth. Their emblem was the sacred vase

or receptacle and in the “Lyfe of the Indians” this will be seen figured on their mantas and shields (no. 6*a*). A small gold plate, of the same shape, is represented as worn by these “lords,” attached to the nose (no. 6*b*); and, in the same MS., the symbolical ornament is also carried by the “sister of Tlaloc.” It was evidently [pg 103] worn, like similar ornaments in other countries, hanging from the septum of the nose, and seems to have indicated a consecration of the breath as the substance of life. As an inference, merely based on an insight gained into the native modes of thought, I suggest that the explanation for the adoption of this ornament may have been the religious idea that the breath of life, dividing itself as it issues through the nostrils and uniting when inhaled, appeared to the native thinkers as a marvellous illustration of unity and duality, both ideas having constantly been present in their minds.

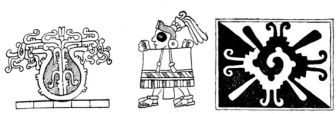


Figure 32.

In the Vienna Codex there is a remarkable picture of the earth-vase resting on a slab with five divisions. A profusion of puffs or breaths of air or vapor issue from it and, branching off in two directions, form what is like the conventional tree of life, also met with in Maya bas-reliefs and documents. At the extremities of the branches which turn downwards, a serpent's eye is visible and a forked-tongue issues above the middle (fig. 32, no. 1). The intention to express an exuberant vitality and growth issuing from the symbolical vase in the centre of the earth, seems obvious. This idea is still more clearly conveyed, however, in two symbolic pictures on pp. 21 and 29 of the Codex Borgia, which are reproduced as nos.

1 and 4 in fig. 1 of this publication. The first represents the vase overflowing with water and containing a flint-knife, the generator of the vital spark. The central group is surrounded by water and by sun-rays and obviously symbolizes the union of air, light and water, constituting the Above, with the flint the emblem of the earth-mother and of Tezcatlipoca, the lord of the Under-world. Fig. 1, no. 4, represents the vase overflowing with a liquid, which is designated as being the sacred octli or earth-wine by the presence of the rabbit, which expresses the sound of its [pg 104] name = tochtli. This rebus is surrounded by the nocturnal heaven strewn with stars and the reference to the union of rain or earth-wine with earth and darkness is evident. It has been generally assumed that these images of the vase, containing the rabbit or flint-knife, represented the moon. As the latter was intimately associated with the cult of night, of the earth-mother and ideas of growth, it is not impossible that by an extension of symbolism, this was the case, but only in the same way as the sun was the emblem of the cult of the Above. On the other hand the native drawings of the moon in Sahagun's Academia MS. represent it as a crescent with a human profile on the inner side, and in a specimen preserved at the Trocadéro Museum, Paris, it is similarly carved in rock crystal.

Before proceeding to investigate the symbol further, I would point out the general resemblance of the vase, especially as a conventionalized serpent's jaw, to the "horse-shoe" shape of the problematical stone "yokes" which have been so thoroughly studied by Dr. Hermann Strebel of Hamburg (Studien ueber Steinjoche aus Mexico and Mittel-Amerika. Internationales Archiv, bd. III, 1890). Mr. Francis Parry has advanced a view concerning the meaning of these curious "sacred stones."[9] This is somewhat corroborated, as will be shown, by my recent studies, which seem to indicate pretty clearly that these symbolical objects pertained to the cult of the earth-mother. A fact of unquestionable importance, cited by Mr. Parry, is the certified existence and use, amongst southern

Californian Indians of the present day, of a rudely worked stone of the same shape, in a native religious rite. The owner of one of these stones, Mr. Horatio Rust, a pioneer resident of Pasadena, southern California, exhibited it in the Anthropological Section of the World's Columbian Exposition, at Chicago, 1893, and informed me how he had observed that, occasionally, a native assembly took place at a certain spot on a mountain side, during which invocations and offerings were made. He ascertained that the ceremony on one occasion was the equivalent of the puberty-dances of similar California tribes. Having visited and examined the spot after one of these celebrations, in which six young girls, decorated with garlands of flowers, were the chief participants, he found the “sacred stone,” concealed and surrounded [pg 105] by offerings of corn, meal and pieces of money. The version published by Mr. Parry is slightly different to this account, which was given me by Mr. Rust himself.

In order fully to appreciate the close analogy between the Californian ceremonial offering of maize and meal to the emblematic stone and the ancient Mexican ritual offerings of seeds to an idol, holding a bowl or vase, it is necessary to read the following data. At the same time I would like to mention here that amongst the Hupa Indians of California, who have been termed “the Romans of Northern California by reason of their valour and far reaching dominions,” we find that “flakes or knives of obsidian or jasper, sometimes measuring 15 inches or more in length, are employed for sacred purposes and are carried aloft in the hand in certain ceremonial dances, wrapped with skin or cloth. Such knives are esteemed so sacred that the Indians would on no account part with them, and Mr. Stephen Powers found that they could not be purchased at any price.”[10]

It is scarcely necessary to recall here that the flint-knife was a well-known ancient Mexican emblem, nor to point out the importance of the conclusion that two well-defined symbols which played an important rôle in the

Mexican and Mayan cult of the Below and of the Earth-mother, are actually found in use amongst Californian Indians at the present day.

A whole flood of light is thrown upon native symbolism, however, by the information obtained from the Zuñi Indians by Mr. F. H. Cushing. The following passage, from their Creation myth, affords the most positive confirmation of the foregoing conclusion, that the bowl or vase was the native emblem of the earth-mother. The Zuñi speaker said: “Is not the bowl the emblem of the Earth, our Mother? For from her we draw both food and drink, just as the babe draws nourishment from the breast of its mother. And round, as is the rim of the bowl, so is the horizon....”[11] Interesting as this explanation of the native symbolism undoubtedly is, it becomes most important when its full significance is realized and we recognize that originally earthenware bowls themselves were looked upon as sacred emblems formed indeed out of the material of the earth itself. This fact places the invention [pg 106] and manufacture of earthen vessels in an entirely new light and enables us to conjecture and understand why, quite apart from their utility, so much care and decoration were lavished upon them and why, indeed, they were constantly buried with the dead. They obviously served as sacred emblems of the earth-mother, to whose care the dead body was confided, and originally the intention probably was to propitiate her by the beauty of the sacred vessels, which, to be symbolical of her bounty, necessarily contained food and drink.

Without pausing to discuss how easily this custom would have gradually given birth to the belief that the food and drink thus offered were intended for the use of the dead body itself, or its soul, I would point out that, in the absence of clay vessels, a stone, rough or worked, would have also served as an appropriate emblem of the earth-mother, being as it were, of her own substance. It is well known that in ancient Mexico this custom prevailed. There we also find that the bowl- or vase-shaped grave

was employed, with a deeply religious and symbolical meaning. This is clearly revealed by a native drawing in the "Lyfe of the Indians," representing a native burial. The deceased, represented by his skull only, has been placed in a deep hole, figured as a large inverted horse-shoe, painted brown and covered with small "horse-shoe" marks. The same religious symbolism which led to the adoption of a definite form of sepulchre, typifying the element earth, would evidently account for the adoption for burial purposes, of large clay vessels into which the remains of the dead were placed. In some localities these clay burial urns were, as we know, made large enough to contain the dead body itself. The difficulty of manufacturing these would naturally have led to the general adoption of cremation, simply as a means of reducing the remains so that they could repose in the sacred image of the earth. Cremation would, moreover, be a rite full of meaning since, to the native mind, earth was inseparable from its twin element fire, and both together constituted the "Below."

It is significant to find, however, that the ashes of Montezuma's predecessors had not been finally consigned to the earth. In strict accordance with their association with the Heaven and Above, their remains were never allowed to come in contact with the earth, but were usually preserved inside of a hollow wooden effigy of the deceased, which was dressed in his insignia and placed in a high [pg 107] tower, built for the express purpose. Cortés states that there were "forty very high towers" in the enclosure of the Great Temple of Mexico and that "all of these were sepulchres of the lords" (Historia de Nueva-España, ed. Lorenzana, pp. 105 and 106). Whilst it is evident that the remains of all lords and priests of heaven should thus be assigned a place of rest high above the earth, it is equally intelligible that the bodies of the lords and priests of the Below and all women should be consigned to the interior of the earth and by preference in caves. The Codex Féjérvary contains an interesting picture of the tied-up body of a woman, recognizable as such

from the head-dress and her instrument of labor, the metlatl, on which the maize is ground. The mummy rests inside of a flat effigy of a serpent's head, which seems to be carved in wood or stone and closely resembles fig. 31, no. 11. It is worth considering whether the carved stone-yokes may not have served in connection with the funeral rites of the consorts of rulers or high priestesses or priests of the Below.

If investigations of the vase or earth symbols are extended to countries lying south of Mexico, traces of the existence of an analogous cult are observable. There undoubtedly exists a striking resemblance between the form of the characteristic and peculiar stone “seats” which have been found in such numbers in Ecuador, to the vase, fig. 31, no. 3, for instance. The employment of these symbolical stones as a consecrated central altar or, possibly, as the throne of the living representative of the earth-mother, would have harmonized with the native ideas which have been traced on the preceding pages.

It was also extremely interesting to me to find the identical symbol in the Maya day-sign Caban, which has been identified by Dr. Schellhas and Geheimrath Förstemann as a symbol of the earth and is figured on p. 99 of Dr. Brinton's Primer of Mayan Hieroglyphics. In the sign Caban, the horse-shoe mark is accompanied by a series of dots which seem to indicate liquid trickling from the receptacle and permeating the soil, an idea which is strictly analogous to the much more elaborate Mexican images of the vase full of rain or “earth-wine,” fig. 1, nos. 1 and 4, which, in cursive form, was employed as the emblem of the pulque, or octli lords, the priests of the earth. It is strikingly significant to find that in the Maya Codices the drops issuing from the horse-shoe are sometimes figured as trickling into the mouths of “divinities” whose [pg 108] faces also exhibit images of the sacred vase, analogous to that of the Mexican “octli-lords.”

These Maya divinities have been designated by Dr. Schellhas as god L, whose face is painted black and under whose eye a vase is painted, a peculiarity termed by Maya authorities “an ornamented eye” and which may be seen in fig. 33, iv; (2) as god M, “a second black god,” whose eye is likewise enclosed in a vase and whose hieroglyph is a vase on a black ground; and (3) as god C, of whom I shall subsequently speak in detail. (See Brinton's Primer, pp. 122 and 124.) In the case of god L, the two horse-shoe marks from which drops are falling into the mouth of the god, are surmounted by the glyph imix, to which I shall revert.

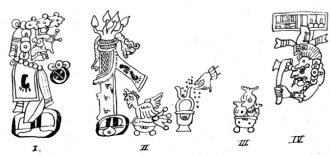


Figure 33.

The horse-shoe mark with drops likewise occurs in the design resembling the akbal glyph, which has been interpreted as connected with akab = night. It also occurs, in Maya Codices, on bands exhibiting cross-symbols, sometimes in an inverted position and hanging from above and sometimes standing on two of the three mounds which are a feature of these interesting glyphs. Postponing a detailed discussion of these, I will but emphasize here that, in the Maya Codices the vase, cursively drawn as a “horse-shoe” mark, is proved to be intimately connected with the ideas of liquid falling from above, and constituting the drink of divinities and symbols associated with the sacred vase, night and darkness, all attributes of the Below. We shall next demonstrate that it was alternately placed, on the Maya Caban glyph, with a curious sign consisting of a pea-

shaped black dot, to which a curved and wavy line is attached. This is always figured as issuing [pg 109] from above the dot, then extending downwards and half around it and terminating in a descending, undulating line.

I submit the following to the consideration of Maya specialists: It seems to me that this sign presents an extremely realistic drawing of the seed of a monocotyledonous plant, such as the maize or Indian corn, in its first stage of germination, when the radicle, having issued from the apex, turns downwards in characteristic fashion and penetrates into the earth. Besides the realism of the native drawing there can be no doubt that the image of a sprouting maize-seed is the most expressive and appropriate accompaniment to the symbol of fertilizing rain, on an earth-symbol, and I am unable to understand how Drs. Cyrus Thomas, Seler, Schellhas and Brinton could have overlooked the realism in this image of a sprouting seed, and concluded that it was a portrayal of "fermented liquor trickling downward," a "nose-ornament," or a "twisted lock of hair," "a cork-screw curl." The latter interpretation was made by Dr. Schellhas because he found the sign in connection with female figures in the Codices, which undoubtedly is a fact of extreme interest, as it furnishes a valuable proof that the Mayas associated the earth with the female principle.

Dr. Schellhas, however, records his observation that the sign caban occurs as a symbol of fruit-bearing earth, in the Codex Troano, as it is figured with leaves of maize (p. 33) or with climbing plants issuing from it and winding themselves around a pole (p. 32). Geheimrath Förstemann connects the day-name caban with "cab" to which Perez, in his dictionary, attaches the meaning of "earth, world and soil" (Die Tages götter der Mayas. Globus, vol. LXXIII, no. 9) and adds that the hieroglyph decidedly designates the earth. At the same time he interprets what I regard as the maize-grain and its radicle, as possibly representing a

bird in its flight upwards, and he merely describes the accompanying inverted horse-shoe with dots, without attaching any positive meaning to it. It must be added that Dr. Förstemann himself states that he is not satisfied with his own interpretation of these two symbols, the first of which, the seed and radicle, likewise occurs in the day-sign cib, to which I shall recur.

If any doubt remains as to the signification of the day-sign cab, I think it will be dispelled when it is shown that the name cab, or caban is obviously related to the adjective, adverb and preposition cabal or cablil, which signifies low, below, on the earth, in, beneath [pg 110] and under. The frequent association of the cab glyph with the image of a bee, as in the Codex Troano, is partially explained by the fact that the Maya word for honey is cab, for honey-bee is yikil-cab. It affords at all events, an instance, in Maya hieroglyphic writing, of a method of duplicating the sound of a word analogous to that which I detected in Mexican pictography, and named complementary signs in my communication on the subject, published as an appendix to my essay on Ancient Mexican Shields (Internationales Archiv für Ethnographie, Leyden, 1892). On the other hand the day name and sign cib, on which the sprouting grain is also figured, seems to be related to the verb cibah = to will, to occur, to happen, to take place. The allusion contained in both glyphs is obviously the same and signifies, in the first place, the hidden process of germination which takes place under the surface of the soil, and is associated with the idea of the female principle in Nature.

The seed and radicle, horse-shoe and rain-drops, are also distinguishable on a vessel on page 35 of the Dresden Codex and on a small three-legged vase, which is figured by Doctor Brinton (Primer, 118) as the day sign ch'en. This vase is surmounted by two in-curving projections and offers a close analogy to a sacred vase with superstructure (fig. 33, II) from which projects a peculiar open and double receptacle, into which a priest is sowing

small seeds. The interior of this bowl is represented as hollow, and containing what I shall show further on to be a native symbol for Earth: three little mounds. On another bowl, in front of this one, a bird is sitting and presumably hatching. In another portion of the same MS. a similar bowl is figured containing three seed fruits and capsules, resembling pomegranates or poppy-heads (fig. 33, III).

The tree next to which the first two symbolical bowls are placed deserves to be carefully studied, for the trunk is crowned by four stems bearing single leaves and is encircled by a serpent, *can*, the homonym for the numeral four = kan. A fringed mantle and a scroll hang from the coils of the serpent's body, two footsteps are painted on the scroll and, pointing downwards, express "descent," as do also the falling drops of liquid on the stems of the tree which grows from a peculiar glyph with subdivisions, which has points of resemblance with the glyph under the footless divinity (fig. 33, I). An obsidian mirror, with cross bars, is painted in front of the latter, which displays the same descending footsteps [pg 111] on its mantle. The head and eyes of a snail, the symbol of parturition, are above its face and a wreath of flowers crowns its head. Tedious as such a minute analysis may seem, it is nevertheless necessary, in order to gain a perception of the extent to which symbolism was practised in the picture writings found in the Maya MSS., accompanied by the cursive calculiform glyphs. It seems that, in no. II, we have a presentation of the Maya "tree of life," and that scrolls, on which descending footsteps are depicted, are intended to convey the meaning that life is descending from Above into the egg and seeds by virtue or decree of the celestial power. It should be noted here that the phenomenon of a living bird issuing from the hard and inanimate egg-shell had made as deep an impression upon the ancient philosophers in Mexico as elsewhere, and that the power "to form the chicken in the shell" was deemed one of the most marvellous attributes of "the divine Moulder or Former," as is further set forth in the "Lyfe of the Indians."

The foregoing illustrations establish, at all events, that the Mayas, like the Mexicans, associated the sacred vase with seeds and germination. The vase, illustrated by Doctor Brinton, exhibits the seed and radicle; and this is also found on the symbol for earth, which, in the Cortesian Codex, is associated with the image of a serpent, possibly the equivalent of the Mexican Cihuacoatl, or female serpent.

If, after mustering this close array of analogies, we next examine the glyph cib, we find that it exhibits the seed and radicle in the centre of a square, three sides of which are decorated with what Doctor Brinton has termed the "pottery decoration(?)." This consists of short lines, such as are employed in Mexican pictography, in the well-known sign for tlalli, or land, which is usually surrounded on three sides by a fringe, presumably symbolizing plants and grass, a "fringe" of vegetation and verdure. In the glyph cib, already referred to, I am inclined to see but a cursive rendering of the same idea, with the seed and radicle in the centre and the fringed border barely indicated by a few short lines. The same border is found repeated on three sides of the head of a frequently recurring personage whom Doctor Schellhas designates as "God C, of the Ornamented face." In his extremely valuable work, Die Göttergestalten der Mayahandschriften, this careful investigator records the various combinations in which this God C occurs in the [pg 112] Codices and impartially weighs the possibilities of its meaning. Geheimrath Förstemann has made the important observation that the figure of God C occurs in combination with the day-sign, chuen, of the Maya calendar, which coincides with the Mexican day-sign azomatli = monkey.

I am unable to agree with my venerable friend in identifying God C, with Polaris. As Doctor Schellhas rightly observes, the fact that God C is found in combination with the signs of all the four quarters disproves an identification with Polaris. What is more,

God C is frequently represented as receiving in his mouth drops of liquid falling from a cursive vase placed above his head—a detail which clearly connects him with earth and the "earth-wine." In the Mexican MSS. we find the monkey intimately connected with the octli or earth-wine gods as, for instance, in the "Lyfe of the Indians." I therefore reserve a more detailed discussion of this subject for my notes on this MS. and return to the glyphs caban and kan or can.

Just as it has been shown that the first may signify cabal = the Below, so it is evident that the second is connected with the preposition and adverb canal, signifying "above, on top of, on high." Dr. Brinton sees in the kan symbol a presentation of a polished stone, or shell pendant, or bead, and cites the Maya dictionary of Motul which gives kan as the name for "beads or stones which served the Indians as money and neck ornaments." In connection with this important statement I revert to the carved shell-gorgets which have been found in the mounds and ancient graves in the Mississippi valley and exhibit Maya influence. The greater number of these exhibit a carved serpent (which in Maya is *kan*) in their centres and this fact affords a clue to the possible origin of the Maya name for a neck ornament given in the Motul dictionary. It is undeniable that all evidence unites in proving that the ancient peoples of the Mississippi valley were in traffic, if not more intimately connected, with a Maya-speaking people and came under the influence of the ideas and symbolism current in Yucatan.

Returning to the employment of the glyph kan in Maya Codices, for more reasons than I am able to enumerate here, I conclude it served as an indicative of the Above or Heaven. It is a curious fact that the Maya word for cord is kaan, whilst the name for sky is caan. I cannot but think, therefore, that a carved pendant with a serpent effigy = a kan, worn on a cord = kaan, must have been associated [pg 113] by the Mayas with the Heaven or sky = caan, and that this linguistic coincidence must have been a

strong factor in the development of the symbolism attached to the glyph can or kan.

An interesting fact, which I shall demonstrate by a large series of illustration from native Codices in a chapter of my forthcoming work on the ancient Calendar System, will show that in their hieratic writings, the ancient Mexican scribes represented the nocturnal heaven or sky as a circle composed of a cord, to which stars were attached, whilst the centre of the circle exhibited one or four stars. In my opinion the origin and explanation of the association of the cord with stars are clearly traceable to the above mentioned fact that in the Maya tongue the word for cord, kaan, closely resembles the sound of the word caan = sky. The presence of the cord in the Mexican symbols is, therefore, another indication of their Maya origin. A proof that the Mayas also employed the cord as a symbol of the sky, or heaven, is furnished by the much-discussed lentil-shaped stone altar found at Copan, a small outline of which is represented in fig. 21, no. 1. In order fully to understand the meaning expressed by this stone, it is necessary to bear in mind how indissolubly the idea of something circular was associated by the Mayas and Mexicans with their conception of the vault of heaven resting on the horizon, and of the Above, consisting of the two fluid elements, air and water.

It is scarcely necessary to refer again here to more than one authority for the statement that the temples of the air (of the Above) were circular, and the reason given by the natives for this was that "just as the air circulates around the vault of the heaven, so its temple had to be of a round shape."[12] As a contrast to this conception, the influence of which is also obvious in the form of the round temples and towers of the ruined cities of Central America, I would cite the allusions to the solid earth contained in the sacred books of the Mayas, the Popol Vuh, as being "the quadrated earth, four-cornered, four-sided, four-bordered." These data establish the important fact, to which I shall recur, that the native philosophers

associated the Above, composed of air and water, with the rounded, and the Below, composed of fire and water, with the angular form.

The Copan stone altar exhibits the circular form and is surrounded [pg 114] by a sculptured cord which conveys the sound of its name kaan or caan = heaven. On it a cup-shaped depression = ho-och, marks the sacred centre of the heaven, the counterpart to the terrestrial bowl whence all life-giving force proceeded. Two curved lines diverge from this and divide the vaulted circle into two parts. The curve in the lines may be interpreted as conveying motion or rotation whilst the division of the sky may have been intended to signify the eastern or male and the western or female portion of the heaven, the whole being an abstract image of central rulership and of a dual principle incorporating the four elements. It is obvious that the meaning intended to be conveyed might also include the duality of the Heaven or Above, composed of the union of the elements air and water. By painting the stone in two or four colors either of these meanings could have been expressed. In either case it will be recognized, however, that much as Dr. Ernest Hamy's deductions concerning this altar have been criticised, the learned director of the Trocadéro Museum, Paris, was undoubtedly right in recognizing that the stone is a cosmical symbol, intended to convey the idea of a two-fold division and analogous to the Chinese tae-keih which it resembles, with the difference that the Copan sign is more complex exhibiting, as it does, a central bowl-shaped depression. A glimpse at the other symbols in fig. 21 will show that the identical idea is expressed in the Mexican signs exhibiting a central circle, usually accompanied by a four-fold division.

An analogous attempt to express the same native idea is recognizable in the peculiar mushroom-shaped stone figures, represented by a number of examples at the Central American exposition recently held at Guatemala,[13] and recently described by the distinguished geologist and

ethnologist, Dr. Carl Sapper. The specimens had been collected in San Salvador and Guatemala and “resemble great stone mushrooms” inasmuch as each consists of three well-defined parts, a square pedestal from the midst of which rises an almost cylindrical “stem” supporting a large circular solid top, flat underneath and rounded above. The cylindrical support is carved in the rough semblance of a human form, which, in some instances, has rays issuing from its head.

An acquaintance with the fundamental ideas of native cosmogony [pg 115] enables us to recognize that the square stone base typifies the solid part of the universe, the Below, whilst the vaulted circle above typifies the heaven, the Above. The figure standing between both is evidently an image of a central lord and ruler, and the entire image is in accord with the native mode of thought as set forth in Mr. Frank H. Cushing's report already cited and in the symbols which have been figured.

After reading Mr. Cushing's account of the native American philosophy, preserved to the present day by the Zuñis, it is impossible not to realize how clearly the mushroom-images materialize the identical ideas which constitute, indeed, the keynote of native thought and can be traced in each centre of ancient American civilization. I am inclined to think that these stone images were, originally, painted with the colors assigned to the four quarters, which would render the symbolism more apparent. The existence of these images in a restricted area of territory, seems, moreover, to indicate that they had been invented there, possibly under the influence of a religious and political creed with particular reference to the union, in a single individual, of the power and attributes of the Above and Below—an idea which strongly contrasts with Mexico and Yucatan, where the idea of duality prevailed to such an extent that, by creating two distinct religions and governments, it ultimately led to the disintegration of the greatest of native empires and its fall, from which it was only

rallying at the time of the Conquest. It is also possible that the Guatemala images are the expression of the reversion to a more ancient form of philosophy or government when it had been realized that dual government led to dissensions and disintegration. At all events the rude mushroom figures testify that the conception of a single celestial or terrestrial ruler of the Above and the Below filled the minds of their makers at a time, the exact date of which it would be of utmost importance to determine, if this were only possible. It is also interesting to note the curious analogy presented by these figures to the well-known statement by Confucius that, “the sage is united to Heaven and Earth so as to form a triad, consisting of Heaven, Earth and Man.”

The association of the round form and of the peak with the Above and of the square and bowl with the Below can be also detected in the form of native American architecture, as exemplified, for instance, by the contrasting shapes of two temples figured on [pg 116] page 75, of the Borgian Codex (fig. 34) which were obviously dedicated to the two prevailing cults. One of these is surmounted by a tau-shaped thatched roof with a flat top and turned-down ends. The dedication of this temple to Night or star-cult is conveyed in this case, by the sign for star on a black ground inserted in the roof.[14]

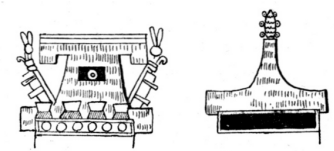


Figure 34.

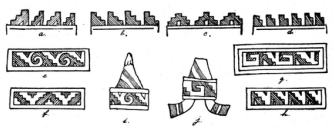


Figure 35.

The opposite temple exhibits a roof which rests on a black architrave and offers a general resemblance to an inverted tau. It rises in a tapering form and ends in a cone-shaped ornament. The existence and significance of these two forms of temple-roofs might escape notice did the same not recur in two high caps or mitres figured in the Vienna Codex and obviously intended for the respective use of the Lords of the Above and of the Below at a religious ceremonial (fig. 35). The first of these ends in a high peak, the extremity of which is represented as capped with snow, in the same conventional manner employed in figuring snow-mountains. An extremely significant feature of this cap is its exhibition of a curved and rounded pattern only on its border. The second mitre [pg 117] ends in a horizontal line; it exhibits an angular pattern and two flaps hang down from it, which, as they naturally concealed the ears of the wearer, seem to have been

symbolical of something hidden, and, perhaps, of silence and secrecy. A third mitre is figured on the same page, which seems to unite the characteristics of both forms and is surmounted by a young maize-shoot, proceeding from a vase.

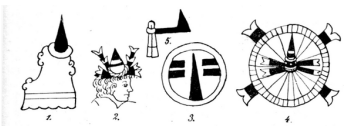


Figure 36.

The association of the Above with a peak or point is further illustrated by a well-known peaked diadem always painted blue which was the symbol of the visible ruler (fig. 36, no. 5). A peak also occurs on military shields accompanied by four bars (fig. 36, no. 3) and presents an analogy to no. 4 from the "Lyfe of the Indians." The latter is given as the symbol of a sacred festival which I have demonstrated in a previous publication to have coincided with the vernal equinox.[15] For further reasons which I shall present in my calendar monograph, I infer that we have in this drawing a most valuable image of the gnomon and dial employed by the Sun priests for the observation of the equinoxes and solstices. The human victim who was attached to the centre of the circular stone during the same festival is usually represented with the same cone or point and eight appendages on his head (fig. 36, no. 2). Owing to the circumstance that this peaked head-dress, or cone, was sometimes employed by the scribes for its phonetic value, as in fig. 36, no. 1, from the Codex Mendoza, in which instance it is figured on a mountain and is usually painted blue, we know positively that its name was Yope or Yopi—a valuable point since a temple and a sort of monastery in the courtyard [pg 118] of the Great Temple of Mexico were both named Yopico (Sahagun). At the same time it should be noted that the

Maya name for “a mitre,” the symbol of a divine ruler, is Yop-at. In the Mexican ollin-signs a cone or ascending point is usually placed above and opposite to a symbol consisting of a ring or loop. These evidently signify the Above and Below, and in this connection it is worth noticing that archaeologists have long puzzled over the curious forms of the two kinds of prehistoric stone objects which have most frequently been found in the island of Porto Rico. The first of these consists of an elongated stone, the centre of which rises in the shape of a cone, whilst the ends are respectively carved in the rough semblance of a head and of feet. The second form, which has frequently been found in caves, consists of a large stone ring, and is popularly termed “a stone collar.” I am inclined to regard the latter as being analogous to the “stone yokes” of ancient Mexico and to infer that the aborigines of Porto Rico practised a form of the same cult. It should be borne in mind that the high conical stone, on which the human victims were sacrificed, was a salient feature in an ancient Mexican temple and that its form must have had some symbolical meaning. The foregoing data indicate that it probably was emblematic of the Above and Centre and was therefore regarded as the fitting place of sacrifice to the Sun and Heaven, whilst offerings to the Earth were most appropriately made in circular openings recalling the rim of the bowl and the round line of the horizon. It will be seen further on that the cone recurs in native architecture and that its use as a symbol, in the course of time, culminated in the pyramid.

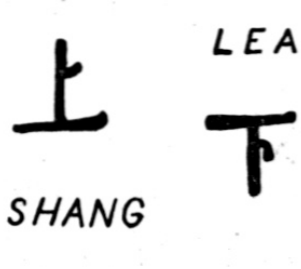
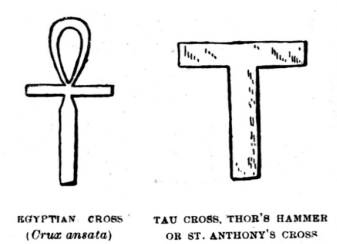


Figure 37.

Let us return to it in its rudimentary stage, as a perpendicular line arising from a medium level, forming an inverted tau. The widespread employment amongst American peoples of the inverted and upright tau-shape as emblems of the Above and Below is abundantly proven and doubtlessly arose as naturally as "the Chinese characters Shang = Above, employed as a symbol for Heaven, and Lea = Below or Beneath, employed as a symbol for Earth. These are formed, in the one case, by placing a man (represented by a vertical line) above the medium level (represented by a horizontal line) and in the other below it" (Encyclopedia Britannica, art. China) fig. 37. Another equally graphic presentation [pg 119] of the analogous thought is furnished by the familiar Egyptian sign which exhibits a loop or something rounded and hollow above and a perpendicular line beneath the medium level. It is well known that the tau occurs in Scandinavia and is popularly named Thor's hammer (fig. 38). Merely as a curious analogy I point out that in fig. 25, no. 2, from the Vienna Codex, we have an American instance of a tau-shaped object held in the hand in a ceremonial rite.



EGYPTIAN CROSS (*Crux ansata*)

TAU CROSS, THOR'S HAMMER OR ST. ANTHONY'S CROSS

Figure 38.

The late and lamented Baron Gustav Nordenskjöld

observed that the entrances to the ruined estufas of the ancient cliff-dwellers of Colorado were in the shape of an upright tau and it is well known that this is also the case amongst the Pueblo Indians of the present day. By means of a photograph taken by Dr. A. Warburg of Berlin, whilst witnessing the Humis-katshina dance of the Moqui Indians at Oraibi, in May, 1896, I am able to affirm that the native dancers wear masks and high head-ornaments, partly of wood, on which reversed and upright tau-symbols are painted, the first in a light and the second in a dark color. As the name of the ceremonial dance was explained to Dr. Warburg as signifying "helping the sprouting or growing maize," and celebrated the advent of the rainy season, it is obvious that the two forms of tau which were displayed in alternate order on the heads of the dancers in the procession symbolized the juxtaposition of the Above and Below, of Heaven and Earth.

In the ruined temples of Central America, windows in the shape of upright and reversed taus also occur. The following series of [pg 120] architectural openings (fig. 39) are copied from Mr. Alfred P. Maudslay's invaluable and splendid work, which has not, as yet, met with the recognition it so richly deserves.[16] They display besides the tau-shape (*g* and *h*) other forms, the symbolism of which has been discussed. There are cross-shaped (*e*), square, round and oval windows (*d*, *j*, *b* and *i*), the square obviously symbolical of the Earth and the round of the Heaven. Besides these there are openings in the form of a truncated cone (*a* and *c*) and others ending in a narrow point (*k*). A striking form which recalls the Moorish arch and is shown in *f*, may, perhaps, be looked upon as an attempt to express the idea of a union of the Above and Below.

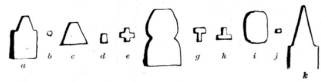


Figure 39.

In connection with these architectural features it is interesting to study their names in the native languages. The Nahuatl names for windows are singularly expressive of their uses: tlachialoyan = the watching place or look-out; puchquiauatl = the smoke opening; tlanexillotl = a word which literally means light and splendor, and to which the following words are related: tlanextia, verb = to shine, shed light and radiance; tlanextilla = something revealed, made manifest, found or discovered, newly invented or formed (brought to light); tlanexcayotiliztli = figure, signification or example; tlanexcayotilli = something figured or significative.

The meaning of the Maya name for window, ciznebna, is not clear, whilst that for door, chi, is the same as for mouth, opening or entrance. At the same time it is evident that, as in Mexico and elsewhere, the window openings in the Maya temples must have been associated with the idea of light, and the symbolical forms given to these besides their positions lead to the inference that they were actually regarded as mystic framed images, so to speak, of the supreme, invisible deity, through which, the light of day and the darkness of night alternately revealed themselves to those [pg 121] inside the sacred buildings. A careful study of the positions and orientations of these openings may yet prove that they also served for astronomical observation. The walls being usually pierced above reach, nothing but the sky could have been watched through them. But besides these, the interiors of Maya ruins contain interesting examples of mural openings and recesses which seem to have been carefully planned so that they should appear dark even in daytime and, in more than one case, these display the form of the upright tau, the symbol of darkness and the

Below.[17]

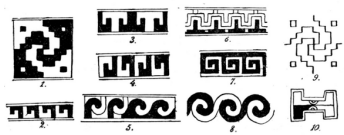


Figure 40.

It does not seem to have been generally recognized that the alternate contraposition of upright and reversed taus produces the best known and most widely spread primitive border-design, usually known as the Greek fret (fig. 40, no. 6). A plain demonstration of this is, oddly enough, visible on the two side-projections of the Scandinavian brooch (fig. 13) all symbols on which, I venture to assert, would have been perfectly intelligible and full of meaning to an ancient Mexican. The evolution of the fret, on the American continent, can be studied on the beautiful wooden clubs from Brazil and British Guiana, figured in Dr. Hjalmar Stolpes' valuable work already referred to. As striking instances his fig. 8, pl. 1, figs. 3*a* and 3*c*, pl. XIII, and figs. 1*a* and 1*b*, pl. V, should be examined. The latter instance is extremely instructive as it not only exhibits single taus of two forms, but the same in different positions, [pg 122] as well as two double-headed figures joined in one, which illustrate the native association already discussed, of duality and of the curved lines as the opposite of the rectangular and both respectively figuring the Above and Below.

It is impossible to study the decorations on these South American clubs without becoming convinced that their makers shared the same ideas as the ancient Mexicans. They offer, indeed, a whole set of variations on the native theme and idea of Heaven and Earth. Two instances (fig. 5*a*, pl. IX, and 6*a*, pl. XI) in which the union of two

figures produces a third, or a single one produces two, elucidate the meaning sometimes expressed by the designs. In the round or spiral forms, which are most frequently accompanied by a zigzag border, I am inclined to see a presentation of air and water, corresponding to the Mexican symbols of the Above.

As lack of space forbids my making here a more extended comparison of the native symbols, I shall but point out how the tau, in juxtaposition and contraposition painted in two colors, produces fig. 40, no. 3. The picture from the Codex Mendoza of a native tlachtli, the form of which is represented by two taus in contraposition, is partly painted black. The same division of a single tau into two parts, colored differently, transforms no. 3 into no. 4 and shows that a single tau could have been employed cursively to symbolize union. 2 and 7 are but variants of 3 and 4. If, instead of angles, curved lines be given to the taus, the first half of fig. 5 is the result. When spaces between the incurving hooks and the border are filled out with color, the familiar design on the second half of 5 results. With exception of the latter, the South American clubs exhibit each of the above forms, as well as no. 8. It will be shown later that these also occur in ancient Peru.

The foregoing examples of the employment of taus in upright and reversed positions is, however, by no means exhaustive. Fig. 41 teaches that the familiar checker-board or tartan design, symbolically employed in ancient Mexico, was the simple result of taus in contraposition, the square spaces thus found being alternately filled with black and brown or gray. The symbolism of this design only becomes evident when all the combinations in which it occurs have been carefully studied. It is represented in the Codices in the doorways and arches of certain sacred edifices which are shown to be estufas or temaz-calli by further illustrations which I [pg 123] could not reproduce here, but which exhibit even the steam escaping from the building and other unmistakable features.

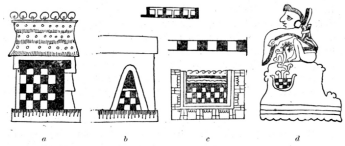


Figure 41.

Sahagun has recorded how these semi-sacred edifices were specially consecrated to the “Mother of the gods and of us all, whose curative and life-giving power was exerted in the temazcalli, also named xochicalli, the place where she sees secret things, rectifies what has been deranged in human bodies, fructifies young and tender things, ... and where she aids and cures....” It was customary for pregnant women to resort to these baths under the care of the medicine-woman who exhorted her patient on entering, with the words: “Enter into it, my daughter, enter into the bosom of our Mother whose name is Yoalticitl ... warm thyself in the bath, which is the house of flowers of our god ...” (Historia, book VI, chap. XXVII).

The Vienna Codex contains, besides pictures of temples (fig. 41, *a* and *b*), two instances which elucidate the meaning of the design; *c* of the same figure displays the conventional symbol for land, fringed on three sides. Enclosed in this and seen, in profile, is a stratum of checker-board design, above which is a sheet of water; d displays a conventionally drawn mountain, inside of which is the symbolical vase filled with the design. From this steam or smoke ascends through the soil of the mountain, and forces its way through the surface, above which we see two recurved puffs of smoke and a young blossoming maize shoot, conventionally drawn, such as may be seen worn by priestesses, as a symbolical head decoration, on page 11 of the Vienna Codex. The seated figure of a priest is represented as sheltering its growth

with his outspread [pg 124] mantle. On his back he displays a symbol, composed of two rolls united by a crossband, which is met with in Maya and Mexican Codices. In the latter the four projecting ends are usually painted with the colors of the four quarters. As these are figured as united into a single sign, it seems evident that this symbolized a union of the four elements deemed necessary for the production of life by the ancient native philosophers.

The foregoing illustrations, to which more could be added, clearly establish that the checkered design was associated with the symbols of earth, heat and water. It obviously expressed the idea embodied in the Nahuatl word xotlac = the heated earth; literally, glowing embers, also budding and opening flowers. It was emblematic of the fall of the rain or earth-wine upon the heated soil. In the temazcalli the same life-producing union of the elements took place and aided human growth and health. It would seem as though the appellation xoch-i-calli, bestowed upon the sweat-house by the native medicine-woman, expressed the same train of thought. Moreover, it is noteworthy, that the sound of the first part of this name and of xo-tlac recurs in the Maya word for vase in general, ho-och. The checker-board design would naturally have been employed in connection with the festivals, associated with esoteric rites, which were held in celebration of the union of the Heaven and Earth at the commencement of the rainy season. It would, naturally, therefore, have been used as a decoration on the drinking vessels employed in the distribution of fermented drinks for vivifying and curative purposes. It is met with on Peruvian drinking bowls, as proven by several examples in the Royal Ethnographical Museum in Berlin, for instance.

It is curious to note as an interesting analogy that the same checkered design frequently adorns the ancient Egyptian drinking bowls represented in the hieroglyphic writings. I have also observed it in some ancient Greek

drinking vessels, preserved at the Imperial Hermitage Museum at St. Petersburg, where it decorated the bowl itself or the garments of Bacchantes figured thereupon. It is also met with in ancient Peruvian textile fabrics, in black and white, as on one figure vase in the Berlin Museum, and, needless to remark, it is a Scotch clan tartan. Its adoption as the basis for chess-boards of ancient Egypt seems to indicate that there it also signified the Above and Below and that the game was thought of as an exemplification of the eternal contest between the powers [pg 125] of Heaven and Earth, light and darkness, etc. We look to specialists for information as to the origin, meaning and employment in Egypt and Greece of this primitive and almost universal design.

Figure 42.

In ancient Mexico and possibly Peru, it obviously pertained to a set of ideas which, in some communities, might easily have degenerated and led to the institution of rites and ideas such as were prevalent in the Maya colony which had established itself at the mouth of the Panuco river, on the coast of Mexico, north of Vera Cruz, and from which the Huaxtecans of the present day descend. It is interesting to note that the name of the capital founded by the colonists, who seem to have emigrated owing to well-founded religious persecution, was Tuch-pan, a word which signifies in the Maya tongue "the umbilicus," qualified by pan, meaning "that which is above or excels," etc., but which was expressed in Nahuatl picture-writings by a rabbit = tochtli and a

banner = pantli.

The opposite of the checkered or xotlac design, was the native water and air pattern which has been pointed out as encircling the mitre of the Lord of the Above or Heaven. It likewise figures in native pictures on the mantles of some of Montezuma's predecessors. The history of its origin and development is best learned from the following native illustrations. Fig. 42, nos. 1 and 2, represents sea-waves, the Maya name for which, by the way, is kukul-yaam, which admits of the interpretation “divine-water” or, if we connect kukul with the Mexican coliuhqui, “twisted or bent water.” A representation of water, as figured on a mantle in the “Lyfe of the Indians,” conveys the idea of water moved by the action of the wind, the blank curve reminding one also of the curves [pg 126] so often associated by native artists with serpents' heads, and with the wind and rain-gods. The well-known symbol of the air-god is accompanied, as already shown (fig. 26), by an ornament which forms a solid frame for a hollow curve constituting an air-image. In the following image an analogous ear ornament is figured and it is surrounded by puffs of air or wind, conventionally drawn (fig. 43).

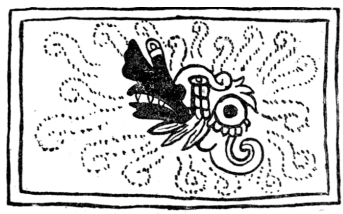


Figure 43.

Whilst the foregoing illustrations amply prove that the natives associated the curved and rounded form with water as moved by air, it must be noticed that in Mexico

and Yucatan, as well as in Brazil and Guiana, plain water was figured by a series of parallel zigzag or undulated lines. For these reasons I infer that the symbolical design, representing actual waves, always expressed the union of air and water, and was therefore emblematic of the cult of the upper elements, or the Above. It is unfortunate that, in Mexico, no vestiges remain of the circular temples which were particularly dedicated to Quetzalcoatl = the divine twin or lord of the twin upper elements = air and water. Doubtlessly they were appropriately decorated with horizontal bands exhibiting the sacred design. The ruined condition of Central American round temples scarcely justifies the hope that such a verification can be made. At the same time the round temple on a square base, with its peculiar ground plan, was, of itself, an image of the Above and of central rule extending to the four quarters (fig. 30, p. 97). That the air and water design was actually employed in America as a frieze on sacred edifices is proven, however, by more than one illustration [pg 127] in the Vienna Codex and other native MSS. (fig. 35, *c*). We also see the design decorating the painted drinking bowls named xicalli which were employed in the distribution of the sacred pulque or octli at certain religious festivals. As the Mexican name given to the design itself is xical-coliuhqui, it seems as though it was most popularly known as the "twisted or winding pattern" of the sacred drinking vessels.

Having originated, as I have shown, from the simplest observation of the action of air upon a surface of water, it is but natural that the same design should have independently originated in several localities. It is, nevertheless, worth mentioning here that the dome of one of the most beautiful of ancient Greek remains, the choragic monument of Lysicrates, or lantern of Demosthenes at Athens, is surrounded by a band or fascia, cut into the water design. It is evident that, seen against the sky, this graphically represented the curling waves of water "on summer seas," and this was evidently the most primitive method of employing this form of

symbolical decoration which is more familiar when executed in solid masonry stucco, as a frieze.

The identical process of development may be observed in Mexican architecture. In the Vienna and other native Codices, countless temples are depicted as surmounted with fasciæ cut into rectangular designs in such a manner that the blank space left between each solid projection figures its inverted image in the air (fig. 35, *a-d*). In these open fasciæ an intention to symbolize the solid or Earth, and the fluid or Heaven, is discernible, whilst the step-like projections seem to express or convey the idea of ascent and descent, perhaps the ascent of human supplication and the descent of the much-prayed-for rain. From the other examples of temple decorations (fig. 35, *f* and *h*) it is evident that, in solid friezes, a light and a dark color were employed in the same designs, to convey the same idea.

Evidence proving that the emblems on the roofs of the temples were replete with meaning is furnished by several representations of roofs, on which rows of upstretched hands or of human hearts are depicted. My horror at these seemingly ghastly emblems vanished as soon as I ascertained their actual meaning from a passage in Sahagun's Historia. Describing a certain sacred dance he records that “on the white garments of the girls who took part in it, hands and hearts were painted, signifying that they lifted their [pg 128] hearts and hands to heaven, praying for rain.” Not only does this explain the symbolism of the hands on the temples but also the native custom observed, by modern pilgrims in Mexico and Yucatan, of painting uplifted hands on the outer walls of sanctuaries as an act of piety and devotion.

Figure 44.

The hideous necklaces of alternate hands and hearts which encircle the neck of a great monolithic idol in the city of Mexico and of an image in the “Lyfe of the Indians” are thus also proven to be the touching though uncouth and child-like expression of a devout prayer. Having gained this insight into the deep significance of native emblems it is interesting to study the peculiar breast-ornament which is the emblem of Xiuhtecuhtli, literally “the azure lord,” or the lord of the year or of fire and of the Cihuacoatl or woman-serpent. It consists of an oblong plaque, the narrow ends of which are cut out so as to simulate two air pyramids with steps. The name of this symbolical ornament is recorded by Sahagun as xiuh-tetelli, literally the turquoise or grass-green pyramid. It is invariably painted blue and displays a round plate of burnished gold in its centre. For more reasons than I can pause to relate here, it can be shown that the plaque probably symbolized the Above, the blue sky, water and air, whilst the gold plate was an image of the central divinity. The sides of the square stool on which the god is seated are also cut out so as to convey the idea that he is resting above terraced air-pyramids (fig. 44). His shield is surrounded by a cord and contains a cross-symbol with lines conveying the idea of rotation and four circles. The banner above the shield named pantli conveys the sound

of the word pan = above, whilst his conical ear-ornament symbolizes the Centre and Above. These details are noteworthy because I am about to point out the striking analogy between a Zuñi idol or fetish and the ancient Mexican pictures of the lord of fire and the lord of the north or the underworld = Tezcatlipoca.

[pg 129]
This Zuñi idol was sent to the Royal Ethnographical Museum at Berlin as part of a representative collection by Mr. Frank H. Cushing and has been figured and described in the publications of the Museum, with notes by Dr. E. Seler.[18] It represents the Zuñi god Ätchialätopa whose attributes are stone knives, who is the patron of the secret society, "Small fire" and who is identified with a great star. His fetish represents him as standing on the centre of a cross, formed of four beams placed vertically and perforated with step-like perforations. The ends are cut out like those of Xiuhtecuhtli's blue emblem. Two parallel bars, the upper one of which is painted blue, the color of heaven, and the lower painted green, the color of the earth, convey the ever-present native idea of the Above and Below. The arms of the cross are painted red with yellow ends which, according to Mr. Cushing, represent the light emanating, in four directions, from the star. The arms are distinctly associated with the cardinal points and each supports the effigies of a mountain lion and a bird—typifying, evidently, as in Mexico, the Above and Below. This cross, with the figure standing on its centre, is suspended from above and, during a certain ceremony, it is set into rapid gyratory motion, from left to right by the officiating high priest.

It is impossible not to see, in this fetish, a swastika in substantial form and in actual rotation; whilst the figure of the god, decorated with stone knives, moves as on a pivot in the centre, presenting exactly the same idea as in the Mexican image of the god held in the centre of a cross-symbol by the jaws of a tecpatl or flint knife. It is unnecessary to mention again here that the only star in

the heaven, which could possibly have been regarded as a centre of rotation, is Polaris; but I should like to draw attention to the fact that bunches of feathers are attached to the extremities of the cross-beams and to the summit of the terraced head-dress of the fetish and recall the circumstance that, amongst the Mexicans and Mayas, the names for feather were almost identical with those for heaven or something celestial and divine.

As the Zuñi god is said to be standing on his red star (an mo-yätchun thlana) and figures as a centre of rotation, I look upon this fetish as affording most striking confirmation of my conclusions concerning the origin of the swastika and cross symbols. If [pg 130] it is certain that, at the present day, the Zuñis associate this star-god with Sirius and their cross symbol with the morning star, then it is quite obvious that they have lost the original meaning of the rotating-star fetish, which could never have been suggested by either of these or, indeed, by any other heavenly body but Polaris. I regret that space does not permit me to consider here, more fully, other close analogies between ancient Mexican and modern Zuñi religious ceremonies, etc., besides those which have been so well described by Dr. J. Walter Fewkes.

I cannot omit to note here for further reference that the national war gods of the Zuñis are the twin-brothers Ahaiiuta, the elder, whose altars were situated *to the right* or south and west of Zuñi, and Matsailéma, the younger, whose altars stood *to the left* or north and east of the village. The secret society of the warriors and priests of the bow dedicated their cult to these brothers, whose counterparts we have already studied in Mexico and Yucatan.

Returning to the primitive designs which expressed the union of the Above and Below, I point out an interesting example from the “Lyfe of the Indians,” which likewise symbolizes the four quarters, and their subdivision and their relation to the whole (fig. 32, no. 3). A somewhat

analogous design, from Peru, presents an outline resembling a swastika (fig. 40, no. 9) which, when filled in with alternate colors, yields fig. 40, no. 1, in which the idea of the Above and Below preponderates. Another example of an analogous employment of a light and dark color is furnished by a shield in the Codex Mendoza, shown in fig. 1, no. 1, alongside of an interesting image which gives us an insight into the depths of meaning contained in the dualistic native designs. It consists of a disk, one-half of which represents the starry heaven and the other the sun, resting on a parti-colored support (no. 8). It is evident that day and night are thus symbolized, and it is reasonable to infer that in some centres of thought especially the ideas of light and darkness should have become associated with the two different forms of cult the followers of which would be respectively designated as the children of light and the children of darkness. By means of a light and a dark color numberless variations of the one theme were indeed obtained. In the native Codices, in textile fabrics and on pottery, there are also numerous examples of an extremely simple design consisting of a single zigzag line running between two parallel lines and dividing the intervening space into two fields, the lower [pg 131] of which is filled out with black and the other with some light color. The dark upright and light inverted peaks were evidently employed as familiar and favorite emblems of earth and heaven.

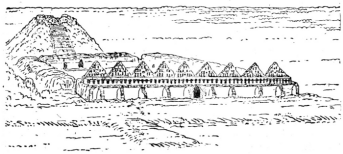


Figure 45.

I am inclined to see in the serrated summit of the

remarkable edifice, known as the House of Doves at Uxmal, a rendering of the same symbolism on a gigantic scale (fig. 45). It cannot but be recognized, moreover, that a high edifice presenting a regular series of cones, and extending from east to west, would have afforded an excellent means of registering the varying positions of heavenly bodies. To observers looking towards it from the north or south, at judiciously chosen distances, the entire span of the sky would have seemed divided into eight equal parts, seen as inverted air pyramids between nine sections which rise in steps and terminate in points, each gable being perforated with thirty window-like openings, arranged in seven horizontal rows. The purpose of these gable-like piles has been a riddle to the archaeologists, who have visited Uxmal. Dr. Wm. H. Holmes, from whose valuable works I cite the above descriptions, expresses his wonder at "the great building, bearing upon its roof a colossal masonry comb, built at an enormous expenditure of time and labor ... which seemed to have been built exclusively for the purpose of embellishing the building and holding aloft its sculptured ornaments" (Ancient cities of Mexico, pl. I, p. 95).

I venture to maintain that this remarkable edifice not only afforded facilities for astronomical observation but constituted in itself a great prayer for rain wrought in stone and addressed to the Lord [pg 132] of Heaven by a devout people. In corroboration of this inference, besides the foregoing data, I point out that to this day the Pueblo Indians associate the step pyramid form with beneficent rain and even give this shape to the edges of the sacred bowls which are carried in the ceremonial dances by the "rain-makers." According to Mr. Cushing the Zuñis compare the rim of such bowls to the line of the "horizon, terraced with mountains, whence rise the clouds." He was likewise informed that the terrace form represents "the ancient sacred place of the spaces," an expression which, though somewhat vague, seems to corroborate my view of the Uxmal building. The Zuñi statement that the terrace form figured mountains leads to the subject of so-called

"mountain worship." In ancient Mexico, at the approach of the rainy season, religious ceremonies are performed in honor of the mountains which were looked upon as active agents in the production of rain, because they attracted and gathered the clouds around their summits. The tops of mountains were thus regarded as the sacred place where the sky and heaven met and produced the showers which vivified the earth. Pilgrimages and offerings to mountain summits formed a part of the duties of the Mexican priesthood, but in the cities the pyramid temple served as a convenient substitute for the mountain.

The close association of the terrace form with rain and water symbolism is certainly exemplified in the Mexican design on a temple roof (fig. 35, *e*). The most remarkable application of the dualistic designs is, however, met with in Peru where, according to Wiener, the irrigation canals which carried water to the maize fields were laid out so as to form pattern bands like fig. 40, nos. 4 and 7, for instance. It is evident that this system of irrigation must have been an extremely effective and practical one, but that it had been probably adopted from superstitious motives as an illustration of the vivifying union of the celestial shower with the seed-laden soil. The assumption that the ancient Peruvians shared the same ideas as the Mexicans and Mayas will be found justified by the following data.

It is now my intention to give a brief and bare outline sketch of the Peruvian civilization, by means of a series of quotations from the best authorities.[19] Incomplete though this must necessarily [pg 133] be, it will, nevertheless, establish, beyond a doubt, that the founders of the great Inca empire were under the dominion of the same set of ideas which I have been tracing throughout the American continent. The lucid records of the Peruvian chronicles and the purity with which the system had been maintained by the Incas, enable us to recognize and appreciate its manifold perfections as a mode of primitive government.

The best authorities agree that the inhabitants of the country, now known as Peru, lived in barbarism until civilization was introduced amongst them by the Incas. One tradition designates an island in the Titicaca lake, another Tiahuanaco, as the place where, "after the deluge," a man or deity appeared, divided the land into four parts and distributed these to four brothers, amongst whom was Manco Capac, to whom was assigned the province to the north. Each brother had a sister who was also his wife. Manco Capac and his sister and wife Mama-Ocllo or, according to other authorities, the third Inca Lloque Yupanqui and his consort, founded Cuzco, also given as Kosko or Kuska, a name which, according to Garcilaso de la Vega signifies "navel of the earth" and was bestowed "because the newly-founded capital was to be the centre and point of all." The city was divided into two parts: Hanan Cuzco = the Above, which was ruled over by the Inca, and Hurin Cuzco = the Below, which was governed by his wife and sister, who bore the honorific title of Coya = queen and Mamanchic = our mother. The inhabitants consequently became separated into two categories: the upper lineage and the lower lineage, Hanan-ayllu and Hurin-ayllo. At the same time this division was not made so "that those of one-half should have an advantage over the other ... the command was that only one difference and acknowledgment of superiority was to be conceded to the inhabitants of the upper town. They were to be respected and looked upon as the first born and elder brothers, whilst the dwellers in the lower town were to be regarded as younger or second brothers. They were to rank as the right arm and the left arm in all offices or places where precedence was necessary. The same division was subsequently carried out in all the towns, great or small, throughout the country, their inhabitants being constantly classed into upper and lower lineages or classes." The empire itself was named Tauantin-suyu, signifying the four in one, or the empire, which was divided into four provinces: Anti-suyu = East; Cunti-suyu = West, [pg 134] on the road to which were two famous brooks of water named the silver

serpents, Collquemachachuay; Chincha-suyu = North; Colla-suyu = South. It is recorded that the Coya or queen went to the Colla-suyu or South and taught the women the art of weaving, of planting maize and of preparing it for food. In connection with the name of female rule = Coya, and the South = Colla-suyu it is interesting to note that the name for granary was Coll-cana. Padre Arriaga (quoted by Rivero and Tschudi, p. 163) describes a remarkable monument which shows that the West was also associated with the female ruler. “The monolithic statue [magnificently sculptured and placed on a sepulchral eminence near Hilavi] represented two monstrous figures standing back to back. One, representing a man, faced to the East; the other, with a woman's face, looked towards the West.[20] Serpents were represented as crawling up the figures and these stood on other reptiles resembling frogs. In front of each of these idols there was a square slab of stone which seemed to have served as an altar.”

With the dual division of the population the seeds of dissension were sown in Peru as elsewhere. At a certain festival the youths of the upper lineage encountered those of the lower lineage in trials of strength and prowess, which sometimes resulted in violence. A certain feeling of rivalry and opposition must have been thus fostered. Two forms of cult prevailed: the Inca lords and warriors were associated with the cult of the Above of which the emblems were golden images of the Creator and of the Sun, “the lord of day,” to whose power rain and thunder were attributed. The silver huaca or image of the moon, called Quilla in Quechua and Pacsa in the Colla dialect, was in the figure of a woman and was kept under the charge of women, the reason for this being “that the moon was a woman.” During the festival Situa, one day was dedicated to the Creator, the Sun and Thunder and another to “the Moon and Earth, when the accustomed sacrifices and prayers were offered up.” We thus clearly distinguish a cult of the Heaven and Day presided over by the Inca and a cult of Earth and Night, whose high

priestess was the Coya. She, moreover, had charge of [pg 135] the embalmed bodies of her predecessors, which were regarded as sacred and were solemnly carried forth in certain festivals, whilst the bodies of the defunct Incas were guarded by their successor. The emblems of both cults were, however, preserved in a single Great Temple, whose principal doorway looked to the north, a fact of special importance in connection with what follows.

All authorities, indeed, designate the north as the quarter whence the foreign culture-heroes came to Peru. "The Incas had a knowledge of the Creator from the first," but it was not until the time of the Inca Yupanqui that the ignorant sun-worship of the primitive inhabitants of the country was superseded by a firmly established new and superior religion.

"Inca Yupanqui appears to have been the first to order and settle ceremonies and religions. He it was who established the twelve months of the year, giving a name to each and ordaining the ceremonies that were to be observed in each. For although his ancestors used months and years counted by the quippus, yet they were never previously regulated until the time of this Lord. He was of such clear understanding that he reflected upon the respect and reverence shown by his ancestors to the Sun who worshipped it as a God. He observed that it never had any rest and that it daily journeyed round the earth; and he said to those of his council that *it was not possible that the Sun could be the God who created all things, for if he was he would not permit a small cloud to obscure his splendour; and that if he was creator of all things he would sometimes rest and light up the whole world from one spot. Thus it cannot be otherwise but that there is someone who directs him and this is the Pacha-Yachachi, the Creator*, literally, the Teacher of the World." His predecessors had ordered an oval plate of fine gold which was to serve as an image of the Creator of heaven and earth, and, in order to convey this meaning it was placed between images of the sun and moon; a proof that the latter were

employed as symbols of heaven and earth.

Inca Yupanqui, however, also caused a statue of the Creator to be made of fine gold and of the size of a boy of ten years of age in order to convey the idea of his eternal youth. “It was in the shape of a man standing up, the right arm raised and the hand almost closed, the fingers and thumb raised as one who was giving an order.” The second gold statue he had made, a personification [pg 136] of the sun “which was dressed like the Inca and wore all his insignia,” shows he claimed to be and constituted himself as the visible representative and Lord of the Above. The silver female statue of the Moon doubtlessly exhibited, in the same manner, the insignia of the Coya. Inca Yupanqui also ordered the houses and temple of Quisuar-cancha to be built and, at this spot, Sir Clements Markham observed an ancient wall, with serpents carved upon it. The name signifies, literally, “the place of the Quisuar tree,” and will be again referred to further on. Without pausing to discuss the subject at length let us examine further the scheme of government, etc., introduced by the Incas, the most striking feature of which was the systematical classification of the people, their assignment to specified dwelling places and the distribution of labor according to prescription.

The key to the entire gigantic system was the conception of a central immutable supreme power which directed all visible and invisible manifestations and which sent forth and re-absorbed all energy. In Cuzco and in the Inca Empire we have a minutely described instance of the application, to terrestrial government, of the laws of fixed order, harmony, periodicity and rotation learned by earnest and patient observers of the northern heaven, during countless centuries of time. The centre of Cuzco consisted of a great square whence four roads radiated to the cardinal points. In the centre of this stood a gold vase from which a fountain flowed. The Spaniards also found in Cuzco a large, beautifully-polished stone-cross which evidently symbolized, as in Mexico, the four quarters and

must have been appropriately placed in the square. Garcilaso de la Vega states that the capital formed an actual image of the whole empire, “for it was divided into four quarters and an extremely ancient law rendered it obligatory that representatives of each province and of each class of population should reside there in homes, the location of which precisely corresponded to the geographical position of their respective provinces. Each lineage was thus represented and occupied separate dwellings, assigned to them by the governors of the quarters. All persons were obliged to adhere to the customs of their forefathers and also wear the costumes of their ayllus or tribes (Cieza de Leon, Cronica chap. XCIII). For the Incas had decreed that the dresses worn by the members of each tribe should be different, so that the people [pg 137] might be distinguished from each other as, down to that time, there had been no means of knowing to what locality or tribe an Indian belonged.”... In order to avoid confusion the modes of wearing the hair were rigidly prescribed and the bands worn on the head by the vassals had to be black or of a single color only. The higher in rank a person was the more his costume resembled that of the Inca, without, however, approaching it in length and richness. “Thus, even in an assemblage of 100,000 persons it was easy to recognize individuals of each tribe and of each rank by the signs they wore on their heads.”...

“It was obligatory that each should permanently live in the province he belonged to. Each province, each tribe and, in many parts each village, had its own language which was different from that of its neighbors. Those who understood each other by speaking the same language considered themselves as related to each other and were friends and confederates.... The Incas employed a private language of their own which none but members of the royal lineage presumed or dared to learn.” Garcilaso de la Vega, who claimed royal descent, stated that unfortunately no records remained to enable one to form an idea of what the Inca language was like.

The autocratic, though peaceable way in which the novel scheme of government was imposed upon the inhabitants of Peru by the foreign chieftains is best proven by the following passages from the Rites and Laws of the Incas (p. 77) and Garcilaso de la Vega (pp. 9 and 10). “With a view that each tribe should be clearly distinguishable and after assigning a different costume to each they were ordered to choose their respective pacariscas, a word meaning, literally, their birth and origin. They were told to choose for themselves whence they were descended and whence they came, and as the Indians were generally very dull and stupid, some chose to assign their origin to a lake, others to a spring, others a rock, others a hill or ravine. But every lineage chose some object for its pacarisca. Some tribes [subsequently] adored eagles because they boasted to have descended from them ... others adored fountains, rivers, the earth, which they call Mother, or air, fire, ... snow-mountains, maize, the sea, named mother-sea.”

According to Garcilaso de la Vega “the Peruvian tribes subsequently invented an infinity of fables concerning the origin of their [pg 138] different ancestors.... An Indian does not consider himself honorable unless he can trace his descent from a river, fountain, lake or the sea, or from some wild beast like the bear, puma, ocelot, eagle, etc.” An example of a certain amount of vain-glory was indeed set by the diplomatic Inca himself who claimed, for himself and lineage, descent from the Sun and reserved burnished gold ornaments for his particular use. His successors subsequently built a temple of the Sun at Cuzco and set up its image made of gold and precious stones. Around this, the royal “pacarisca,” they placed the mummies of all the dead Incas. In another room there was an image of “the moon, with a woman's face,” and about it were the mummies of the royal women. From this we learn that the latter assigned their origin to the moon and that it was their pacarisca or huaca. As an illustration of the way in which creation-myths are sometimes evolved from actual occurrences, it is

interesting to study another account of the mode in which tribal regulations were introduced into Peru. Owing, most probably, to the fact that one of the titles given to the Creator was "the Teacher," we find Molina attributing to the Creator himself the establishment of the tribal system and the assignment of totems and different costumes to each group or family. If we read his account and, with Garcilaso de la Vega and others, attribute to the Incas the introduction of civilization into Peru, we recognize the practical good sense with which they accomplished the rather difficult task of obliging each tribe to wear a different costume. "In Tiahuanaco ... he made one of each nation of clay and painted [these] with the dresses that each one was to wear. Those who were to wear their hair, with hair; and those who were to be shorn, with hair cut ... when he had finished making the nations and painting the said figures of clay, he gave life and soul to each one, as well man as woman ... each nation then went to the place to which he ordered it to go."

I confess that, until I studied the above record in full, I had very vague ideas about the huacas or "idols" of the Peruvians. But when I found it stated, further on, that "each tribe wore the dress with which their huaca is invested," I began to realize what huacas might originally have been. It would seem that on assigning a different costume and distinctive name to each tribe, the founder of the new colony gave each chief as a model, a different clay doll, [pg 139] painted with the distinctive marks he and his people were to adopt. This figure would naturally have been kept for reference and treated as something sacred. On certain official occasions it would be produced as a means of identification or proof that the prescribed costumes had been strictly adhered to. To this practical and sensible plan the origin of the so-called tribal and household idols of the Peruvians and of the Mexicans can doubtlessly be assigned. Invented as an aid in the establishment of tribal-names and dress-regulations and intimately connected with the entire system of government, these huacas gradually became the

representative of the ancestor of the clan, its “canting” arms and its sacred palladium. We are told that after the tribes had chosen their various ancestors or origins, such as caves, hills, fountains, etc., they settled in the land and multiplied. Then, on account of having “issued or descended from stated localities, the people made huacas and places of worship of these, in memory of the origin of their lineage.... The huacas they use are in different shapes.... Some say the first of their lineages were turned into falcons, condors and other animals or birds” (Molina ed. Hakluyt, p. 5). A certain form of ancestor-cult was thus evolved in a natural manner. “Idolatrous rites increased and people devoted themselves to the worship of huacas ... each village had its huaca. The cult assumed such proportions under Ccapac Yupanqui that he exclaimed: ‘How many false gods are there in the land, to my sorrow and the misfortune of my vassals! When shall we see these evils remedied?’ ”

At the same time we find that clay or wooden figures continued to be employed evidently as a method of keeping an accurate register of the population. In the capital, one building held duplicates of all the huacas throughout the land. When a new province was conquered the Inca carried its principal huaca to Cuzco. One or more living representatives of the conquered tribe, wearing its characteristic dress, were obliged to reside in the capital. In ancient Mexico these “living images of the gods” are one of the most striking features of the native civilization and have been persistently misunderstood, especially by modern authorities. As these “living gods” are specially treated in the “Lyfe of the Indians,” I shall merely point out here that small clay portraits or effigies of persons were made in Mexico at certain stages of an [pg 140] individual's life and also after his death. These seem to have been employed for statistical purposes.

In Mexico and Peru large numbers of small images were preserved in each household and were under the charge of its chief or “older brother,” who was obliged to guard

and render account of them. Of course the Spanish conquerors took it for granted that all of these were idols and, in their ignorance, destroyed them unmercifully. Once the native system of tribal organization is understood, it becomes evident that an accurate register of all members of a tribe was of utmost importance. By means of a group of more or less skillfully-modelled figures or heads the size of a family could be ascertained at a glance by the government recorder. In the light of this recognition it seems more than probable that the immense numbers of small clay heads of various kinds, found in the "street of the dead" at the base of the great pyramids of Teotihuacan, and elsewhere, indicate that, in these localities, a periodical and official registration of deaths was carefully carried on. This assumption is fully corroborated by the conclusions I reached, in 1886, after making a minute study of a large number of terra-cotta heads[21] and ascertaining that numbers of them were portraits of dead persons. The above inference is, moreover, confirmed by the name of Teotihuacan, which means, literally, "the place of the lords or masters of the teotle." The term teotl was given to the head of a tribe, who constituted the living image of the tribal ancestor. When he died he himself became one of the tribal ancestors and all dead lords were termed teotle.

The foregoing data enlighten us as to the practical value of a sternly enforced system of division and differentiation for the control of the population, and of clay images of persons for statistical purposes. We have seen that, during many centuries, the energy of the rulers was directed towards making groups of people as distinct and different from each other as possible. They were rigidly kept apart and, in all assemblages, they occupied separate positions, in a fixed order of relation to each other. "All the people of Cuzco came out according to their tribes and lineages ... and assembling in the great square ... sat down on their benches, each man according to the rank he held, the Hanan-Cuzco [pg 141] on one side and the Hurin-Cuzco on the other" (Molina ed.

Hakluyt, p. 26). Beside this dual division of the entire population, under the separate rulerships of the Inca and Coya, who were linked together, however, in a sacred and indissoluble union and respectively represented Heaven and Earth, let us study the executive administration of the religious and civil governments.

Two sets, each consisting of four rulers, next in rank to the Inca and Coya, are described: Each quarter or Suyu was ruled over by a "viceroy," or "Inca governor," entitled tucuyricoc = "he who sees all," or Capac. In the days of the Inca Huayna Capac the names of the four "viceroys" are recorded as having been Capac = Achachic, Capac = Larico, Capac = Yochi, Capac = Hualcaya. These were obviously members of the Inca family and next in rank to the Inca, who presided as supreme pontiff over the religious government. The civil and tribal administration was executed by four Curacas, each of which had charge of 10,000 persons belonging to the ayllus = tribes or lineages. The titles of these four Curacas are recorded as: Hunu-Camayu or Camayoc, Huaronca-Camayu or Camayoc, Pachaca-Camayu or Camayoc, Chunca-Camayu or Camayoc. As their titles show, they were the chief accountants or recorders of statistics, which were recorded by means of the quippus. Under them, in regular order there were officers, who respectively had charge of 500, 100, 50 or 10 individuals. In the latter instance it is expressly stated that it was always one man out of the ten who governed and rendered account of the remaining nine. The four chief recorders dwelt in Cuzco but "left it every year and returned in February to make their report ... bringing with them the tribute of the whole empire. They also reported upon the administration every year recording the births and deaths that had occurred among men and flocks, the yield of crops and all other details, with great minuteness" (Polo de Ondegardo).

From the recorded details of organization we learn that the governmental scheme introduced by the Incas was

based on the assumption that the standard population of the empire should number 40,000 individuals under the civil rulership of 4 recorders, 40 first-grade officers, 400 second-grade officers, 4,000 third-grade officers—each of the last being responsible for nine individuals besides himself. It is noteworthy that the three grades of officers [pg 142] correspond to the threefold division of the entire produce of the land, between the Inca, the Huaca and the Ayllu, equivalent to the religious government, the civil government and the people—to the Above, Below and Middle. The minimal division of people into groups of ten of which one was the governmental representative corresponds, moreover, to the classification into the following ten categories, according to their ages:

1. Mosoc-aparic: baby, “newly begun,” “just born.”
2. Saya-huarma: child, “standing boy,” age 2-6.
3 Macta-puric: “child that can walk,” age 6-8.
4. Itanta-requisic: “bread-receiver,” boy about 8.
5. Pucllac-huarma: “playing boy,” age 8-16.
6. Cuca-pallac: “Coca pickers,” age 16-20.
7. Yma-huayna: “as a youth,” light service, age 20-25.
8. Puric: “able-bodied,” tribute and service, age 25-50.
9. Chaupi-rucca: elderly, light service, age 50-60.
10. Puñuc-rucca: dotage, no work, 60 upwards.[22]

Although for statistical purposes, exact registers of each of these groups were annually made by the recorders, it is evident that the purics or “able-bodied” men constituted the most important portion of the population. They naturally fell into two groups consisting of the nobility and commoners, but scattered evidence amply provides that they were strictly classified according to the special service or tribute they rendered to the government. The best produce of each province was brought to Cuzco.

The inhabitants of each region were specially trained to render certain services or to excel in particular industries —by this means each tribe gradually became identified with its special industry or aptitude. The necessity that

the supply of their produce should be constant and regular, must have necessitated the permanent maintenance of a fixed number of workers at each branch of industry, a fact which would give rise to rigid laws controlling the liberty of the individual, forcing children to adopt their parents' avocations and forbidding intermarriages between persons of different provinces. As scattered mention is made of the following [pg 143] general classification of the male population, I venture to note them as follows, provisionally:

Nobility: Commoners.

1. lords: shepherds (of lamas),
2. priests: hunters,
3. warriors: farmers,
4. civil governors: artificers.

The female population was doubtlessly subdivided in an analogous manner, for it is expressly recorded that all marriageable girls were kept in four different houses. Those of the first class, qualified as “the white virgins,” were dedicated to the service of the Creator, the Sun and the Inca; the second were given in marriage to the nobility; the third class married the Curacas or civil governors, and the last were qualified as “black,” and pertained to the lower classes.

Caste division was never lost sight of—indeed one Inca went so far as to order that all the people of the Below “should flatten the heads of their children, so that they should be long and sloping from the front.” Thus they should ever be distinguishable from the nobility and “yield them obedience.” Although it is not expressly stated, it may be inferred from actual specimens of skulls which have been found that, in some localities, in order to differentiate the two classes still more, members of the nobility strove to mould the heads of their children in a high peak, so that they too should perpetually bear the mark of their rank. Whether such a procedure would

exert a correspondingly elevating or abasing influence upon the intellectual development of the two classes is a problem for anthropologists.

A very simple explanation of the reason why artificial deformation of the skull was ever adopted, is obtainable when the all-powerful dominion of a certain set of ideas is recognized. Many other customs, still in practice amongst American tribes, are likewise explained by the arbitrary division of population into classes and categories. The Peruvian custom of bestowing one name upon a child when it was one year old and another when it attained maturity is the direct outcome of the classification of individuals by age. The ceremonial observances which accompanied the bestowal of these names were accompanied by a change of costume which constituted the official enrolment or advancement into another class. The existence of further systematic class-distinctions [pg 144] is proven by the description of the picturesque ceremony performed in the month of August at Cuzco and called “the driving out of sickness.” In the centre of the great square around the urn of gold which typified the “central fountain” (precisely the idea expressed by the name of Mexico), four hundred warriors assembled. One hundred, representing one of the four ayllus, faced towards each cardinal point and subsequently ran at full speed in its direction, crying “Go forth all evils!”

We have now traced the idea of the Above and Below, Centre and Four Quarters in Ancient Peru. It remains to be noted that the capital itself, which was to be the image of the whole empire, was primarily divided into two halves and four quarters, and subdivided into $4 \times 3 = 12$ wards the names of which doubtlessly corresponded with that of their inhabitants. When the sacred centre of the capital is added to these it is clear that the City of Cuzco was subdivided into as many parts as there were directions in space, *i. e.* 13. It exemplified, therefore, an association of $2 \times 10 = 20$ categories of people classified according to ages, with thirteen directions in space, and a general subdivision of all classes into four parts. The Inca with the four Capacs and the Coya with the four Camayocs formed two groups of five each, which could well have been represented by a large central figure surrounded by four smaller ones of equal size. By coloring these with red, yellow, black and white, their assignment to the cardinal point could have been expressed. The central figure could be painted in four colors, for only the Inca and his lineage could wear many-colored garments, these being indicative that they represented the centre or union of the four quarters.

Two important features of the system remain to be discussed: We have studied the minute and methodical classification of the entire population into distinct groups without touching upon the practical reasons why this was done. We have analyzed the great machinery of the Inca dominion as it lies broken and motionless. But endow the giant wheel with motion, introduce systematical rotation into its every part, regulate the occupations of the people by a fixed series of work-days and holidays. Send them forth to their work and collect the products of their labor at set intervals, *institute a calendar*, and you will have set

the machinery of state in motion and realized how the classification of individuals according to rank, ages, and occupations was absolutely necessary in order to [pg 145] obtain a successful and harmonious result. It has already been shown that the institution of the calendar and establishment of twelve festival periods of thirty days each, in a year, succeeded the division of the people into groups and their assignment to fixed places of abode.

"They commenced to count the year in the middle of May, a few days more or less, on the first day of the Moon ... in this month they held the festivals of the Sun" (Molina ed. Hakluyt, p. 16). I direct particular attention to the fact that it was the new May moon which controlled the beginning of the religious calendar, although the Incas observed the equinoxes and solstices and the cult of the Sun was under their special care. The twelve divisions of the year accord with the twelve wards of Cuzco surrounding the central enclosure which was always the place where the festivals were held and the people congregated.

I have as yet found no account of the lesser divisions of time in Peru, but note that the period of thirty days consisted of six periods of five days each, a subdivision which would obviously accord with native habits of thought if associated with the six terrestrial directions in space and if a reunion of people and collection of produce from four quarters took place on every fifth day in the capital. In my special work on the Calendar systems of ancient America I shall be able to discuss more fully their intimate indissoluble relation to the regulation of labor and control of the food supply absolutely requisite for the great capital.

The idea of rotation was carried out in a ceremony described by Molina. When the December moon was full, after having ploughed their fields during twelve days, "all persons returned to Cuzco ... the people went to a house called moro-uco, near the houses of the Sun and took out

a very long cable which was kept there, woven in four colors, black, white, red and yellow, at the end of which was a stout ball of red wool. Everyone took hold of it, the men on one side, the women on the other, performing the sacred dance called yaquayra. When they came to the square ... they went round and round until they were in the shape of a spiral shell. Then they dropped the cable on the ground and left it coiled up like a snake. The people returned to their places and those who had charge of the cable took it back to its house." An extremely important instance of the application of the spiral is preserved in an illustration in the Account of the Antiquities of [pg 146] Peru by the native chronicler Salcamayhua (ed. Hakluyt, p. 109). He relates that the Inca Huayna-Capac, when he reached the town of Tumipampa, "ordered water to be brought from a river by boring through a mountain, and making the channel enter the city by curves in this way:"

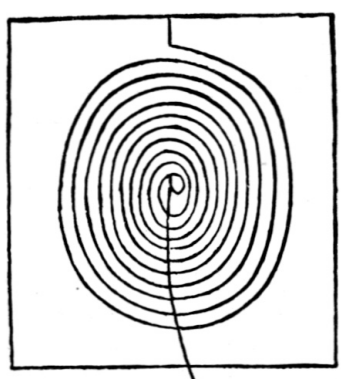


Figure 46.

The illustration, reproduced here (fig. 46), exhibits an extremely ingenious mode of irrigation which divided the country surrounding the town into nine zones of land lying between currents of water. These are cut through by an exit canal which, at the same time, presumably

supplied a direct water-way for traffic to and from the town. The association of the spiral form with irrigation would not, perhaps, seem as important and significant did we not know that the ancient Peruvians, as proven by Wiener, habitually laid out the irrigation canals in their maize-fields so as to form regular designs, some of which resembled those illustrated on fig. 40, nos. 2, 4, 6, 7, which have been shown to signify the union of the Above and Below, or Heaven and Earth. In the Peruvian irrigation canals the water supplied the light lines and the earth the dark, and when the small canals were full and were observed in certain lights, they must have resembled light blue or white patterns running through the dark earth. That their inventors and makers actually associated them with profound meaning and laid them from superstitious as well as practical motives is obvious; for, in Peru, as in Mexico, we find the periodical union of the Heaven and Earth, of rain and earth celebrated with ceremonial drinking of chicha, specially brewed for this period which seems to have been the regularly appointed time for juvenile match-making, by order of the Inca.

“When the Inca gave women as wives they were received because it was the command of the Inca ... because of this it was considered that she was taken until death and she was received on this understanding and never deserted” (Molina). “When the Inca Rocca married his sister, six thousand people were married on the next day” (Montesinos). In the festival called Ccapac Raymi, maidens who had attained womanhood offered bowls of [pg 147] fermented chicha to the youths who had just been admitted to the ranks of the warriors.

“During this festival the Priests of the Sun and of the Creator brought a quantity of fuel, tied together in handfuls, and dressed as a man and a woman ... they were offered to the Creator, the Sun and the Inca and were burnt in their clothes together with a sheep” (Molina).

Towards the end of the same month (November), feasts were celebrated for the flocks of the huacas, that they might multiply; for which sacrifices were made throughout the kingdom. Ultimately "public solemn sacrifices were made to the Creator, the Sun, the Thunder and the Moon for all nations, that they might prosper and multiply" (Molina). A few weeks later, an exemption from ceremonial bondage, for three months, commenced. Throughout January, February and March no religious festival took place at Cuzco—the farmers attended to their land and the people were left at liberty to pursue their various avocations uninterruptedly (Molina ed. Hakluyt, pp. 51 and 52). I have already shown that the same exemption from ceremonial bondage during ninety to one hundred days of the year was customary in Mexico; and, in my note on the Ancient Mexican Calendar System, communicated to the Congress of Americanists at Stockholm in 1894 (p. 16), I explained the reasons which had led me to infer that "the religious festivals were concentrated in the ritual years of 260 days," which indeed forms a unit, consisting of a complete set of combinations of the numbers 13 and 20.

In Dr. Franz Boas' admirable monograph on the Social Organization and secret societies of the Kwakiutl Indians (Washington, 1897, p. 418), it is shown that at the present day the clan system is only in force during one division of the year. "At the beginning of the winter ceremonial the social system is completely changed. The period when the class system is in force is called bā-xus. The period of the winter ceremonial is designated as 'the secrets,' 'making the heart good,' also 'brought down from Above.' The Indians express this alternating of seasons by saying that in summer the bā-xus is on top, the secrets below, and *vice versa* in winter. During this time the place of the clans is taken by a number of secret societies: the spirits who had appeared to mythical ancestors give new names to the men to whom they appear, but these names are only in use during the time when [pg 148] the spirits dwell amongst the Indians, *i. e.*, in the winter." Therefore

from the moment when the spirits are supposed to be present, all the summer names are dropped and the members of the nobility take their winter names. The winter ceremonial societies are arranged in two principal groups; these are subdivided into $2 \times 10 = 20$ groups according to age and sex.

Dr. Boas distinguishes "three classes of tribal names and of clan names, viz., such as are collective forms of the names of the ancestors, names taken from the region inhabited by the tribe or clan and names of honour.... Each clan derives its origin from a mythical ancestor ... the present system of tribes and clans is of recent growth ... their numbers have undergone considerable changes in historical times." A careful study of the material presented by Dr. Boas shows, however, that the ground-plans of the entire social fabric reared by the Kwakiutl Indians closely resembles that on which the stately Maya, Mexican and Peruvian civilizations were reared.

Returning to Peru, it is particularly noteworthy that the above mentioned solemn sacrifices to the Creator, the Sun and Thunder, and Moon and Earth, held in November, were thus offered to them jointly in one consecrated place, whereas, at other seasons, the cult was performed separately and on different days, before the emblems of the Above and Below.

Notwithstanding the moderation and tolerance which seem to have been characteristic of the Inca government, and the apparent equality and accord of the two cults, the heads of which were the Inca and Coya, we find evidences of discord in the historical records. The Inca empire had scarcely been established for more than a few centuries[23] when we discern signs of a serious rebellion under the leadership of the Chuchi-capac, the chief of the Southern province or Colla-suyu, pertaining to the Below. From the taunts he uttered in the presence of the Inca on a festive occasion and which have been recorded verbally by Salcamayhua, it is clear that the chief of the Collas

asserted that he (and the people of his province) actually practised sun-cult although “his throne was of [pg 149] silver;” that is to say, notwithstanding the fact that moon-cult pertained to the quarter to which he was assigned, namely, to the Below. He justifies his departure from moon-cult by taunting the Inca that he, in turn, did not adhere strictly to sun-cult but worshipped the impersonal Creator. This struggle between the ancient native sun-cult and star-cult and this religious dissension, the reason for which is apparent, initiated the long period of internal strife and warfare which ultimately made the Spanish Conquest such an easy matter.

During the course of these wars the Peruvian Inca, on one occasion, avenged himself for a supposed insult by having drums made of the skins of some of the enemies' messengers and by sending back others of these “dressed as women,” that is to say degraded from their positions as warriors or noblemen to the ranks of the commoners. A similar degradation, inflicted upon the Tlatelolcan rebels by the Mexicans has already been mentioned and can only be fully understood when the class-system is recognized.

From this and analogous instances it is evident that, admirable as the scheme of government seems to have been as a means of laying the foundations of civilization, and of teaching primitive people agriculture, stability, law and order, yet the very features which rendered it so efficient at first became, eventually, the cause of its gradual disintegration, as soon as a certain degree of culture prosperity was attained by the community. One mode of avoiding the evils of over-population and of ridding the capital of its restless, and enterprising or troublesome members, was the system of Mitimaes or colonists. This merits particular attention, because it formed an integral part of the marvellous and widespread scheme of organization we have been studying, and therefore helps to an understanding of the customary means by which civilization was spread in past ages

throughout the American continent.

As the population of Cuzco increased and greater food supplies were found necessary, the Incas extended their dominions by a series of conquests. “As soon as they had made themselves lords of a province they left Mitimaes or settlers there, who caused the natives to live in communities” and established a small centre of local government on the pattern of Cuzco. Mitimaes or colonists were also sent, from different provinces, to live on the frontiers, bordering on hostile countries, so as to aid in defending them against the enemies. The establishment of colonies in distant districts [pg 150] was therefore a tried and familiar custom of those who possessed the wonderful governmental plan we have been studying.

I have shown that the greater the prosperity of a civilized community organized on this plan, the more imperative the necessity of founding new colonies would sometimes become. The urgent need of greater food supplies would lead to the sending out of expeditions for the purpose of surveying the surrounding country and ascertaining the quality of its produce. In his MS. Noticia, Padre Oliva speaks of an exploring party which was sent out by the ancestor of the Incas with the injunction to return in a year. After a few years had passed and none of the party returned, a second expedition was sent out in search of the first and this led to the final establishment of the Inca dominion in a promising region. Sahagun recounts how a Maya colony was established at Panuco; Montezuma himself related to Cortés that he and his lineage were descendants of colonists from distant parts; traditions of culture-heroes who established civilization amongst them abound amongst Central American tribes; finally, Peru is shown to have been civilized by rulers who carried out, systematically, a ready-made plan in a comparatively short time. Whence did all these culture-heroes emanate, carrying the identical method and system into widely separated districts and establishing centres of civilization

in the richest and most fertile parts of the American Continent?

Documentary evidence certainly justifies the inference that the civilization of Peru itself was due to just such a deliberately executed plan of colonization, which gradually extended southwards and ultimately took root and flourished in the most favorably situated locality.

Leonce Angrand, who cites Acosta, Montesinos, Garcia, Boturini, Valera, Garcilaso de la Vega, Gomara, Balboa, Paz Soldan, d'Orbigny, Zarate, Cieza de Leon, Torquemada, Herrera, Velasco, Rivero and Tschudi, Gibbon, Stevenson, Castelnau, Desjardins, Villavicencio, Roman and others, unites their testimony in the following sentence: “It is therefore solely towards the North, in the elevated mountainous region, that researches should be directed [in order to ascertain the origin of the Peruvian civilization]. As soon as this is done innumerable proofs appear of the residence, in extremely ancient times, of people who can scarcely belong to other races than those who founded Cuzco and Tiahuanaco. It is therefore, from the North that these hardy pioneers of humanity [pg 151] came, from distant civilizations, and it is certainly by going northwards that one must look for traces of one or the other current of civilization. The inexhaustible force of expansion of the Inca Empire extended to the North as well as in other directions.”

Angrand also mentions a line “of prehistoric ruins which extend northwards from Peru and display the essentially characteristic outlines of the Mexican Teocallis or temples.”[24]

Garcilaso de la Vega, citing Padre Blas Valera, goes so far as to state that the race, which introduced human sacrifices and ritualistic cannibalism into Peru, “had come from the region of Mexico, peopled the regions of Panama and the Isthmus of Darien and all those great mountains which extend between Peru and the new kingdom of Granada” (the present Nicaragua).[25]

According to Padre Anello Oliva, whose manuscript notes on Peru are preserved in the British Museum Library, the immediate ancestors of the Incas were colonists who came from unknown parts either by land or by sea, and settled at Caracas (Atlantic coast), whence they gradually spread southwards. As his authority for this statement, he cites original manuscripts which had been placed in his hands by a Spanish missionary of high standing. Among these was a relation by a Quipucamayoc or “accountant by means of quippus,” named Catari, who had been a chronicler of the Incas. His forefathers had occupied the same post and had handed down the above record as having been related to them by their predecessors.

This account does not disagree with that of Salcamayhua who states that “all the nations of the empire had come from beyond Potosi, in four or five armies, arrayed for war and settled in the districts as they advanced.”

Whatever opinions may be held of the relative reliability of the Spanish chroniclers one thing is certain: that not one ventures the statement that the Inca civilization was gradually evolved by the native race of Peru and that all agree in assigning its introduction to an alien race of rulers who came from the North, and gradually united the scattered indigenous tribes together under a central government. Americanists will doubtless agree with me in stating that, until the past history, antiquities and languages of all tribes inhabiting South and Central America have been exhaustively [pg 152] studied, no absolutely satisfactory conclusion can be formed as to when and how civilization was carried to Peru.

On the other hand, even in the present preliminary stage of investigation, there are certain undeniable facts which, if brought to notice at this early date, may prove of inestimable value in directing future research. One of these facts will doubtless appear to many as strange and inexplicable but as noteworthy as it appears to me.

In Cristoval de Molina's account of the fables and rites of

the Incas[26] already cited, a fable is related concerning the Inca Yupanqui, the Conqueror, who extended the domain of the Peruvian empire and instituted the worship of a creator who, unlike the sun, could rest and light up the world from one spot.

"They say that, before he succeeded [to rulership], he went one day to visit his father Uiracocha Inca, who was at Sacsahuana, five leagues from Cuzco. As he came up to a fountain called Susur-puquio, he saw a piece of crystal fall into it, within which he beheld the figure of an Indian in the following shape:

"Out of the back of his head there issued three very brilliant rays like those of the Sun. Serpents were twined around his arms, and on his head there was the llautu or royal fringe worn across the forehead of the Inca. His ears were bored and he wore the same earpieces as the Inca, besides being dressed like him. The head of a lion came out from between his legs and on his shoulders was another lion whose legs appeared to join over the shoulders of the man. A sort of serpent also twined over the shoulders.

"On seeing this figure the Inca Yupanqui fled, but the figure of the apparition called him by his name from within the fountain saying, 'Come hither, my son, and fear not, for I am the Sun, thy father. Thou shalt conquer many nations: therefore be careful to pay great reverence to me and remember me in thy sacrifices.' The apparition then vanished, while the piece of crystal remained. The Inca took care of it and they say that he afterwards saw everything he wanted in it. As soon as he was Lord he ordered a statue of the Sun to be made as nearly as possible resembling the figure he had seen in the crystal. He gave orders to the heads of the provinces in all the lands he had conquered, that they should make grand temples, richly endowed, and he commanded [pg 153] all his subjects to adore and reverence the new Deity, as they had heretofore worshipped the Creator.... It is related that

all his conquests were made in the name of the Sun, his Father, and of the Creator. This Inca also commanded all the nations they conquered to hold their huacas in great veneration....”

It is a startling but undeniable fact that one of the beautiful bas-reliefs found at Santa Lucia Cozumalhuapa near the western coast of Guatemala, about 1,200 miles to the north of the latitude of Cuzco, answers in a most striking manner to the description given of Inca Yupanqui's vision.[27]

Amongst the thirteen sculptured slabs discovered at Santa Lucia, there are six entire slabs and the fragment of another which are of almost uniform size and may be ranked among the finest examples of aboriginal art which have as yet been found on the American Continent. They represent seven different renderings of the same theme. On each slab an individual wearing elaborate insignia is represented as standing with one arm raised and his head thrown back in the act of gazing upwards towards a celestial figure which seems to be descending towards him. The arms and heads of these nobly conceived figures are visible, but in each case the faces seem to issue from a highly ornate symbol, which is different in each one, just as the insignia of each individual also varies in detail. At the same time it is obvious that the seven slabs commemorate as it were an identical circumstance,—the apparition of the same divinity to seven different individuals, six of which are represented with the sign of speech coming forth from their mouths in precisely the same manner. The general resemblance, notwithstanding the distinct individuality of each bas-relief, suggests that they commemorate the visions seen under [pg 154] similar circumstances by seven distinct personages of the same rank and position. Involuntarily one thinks of the period of enforced fast and vigil which marks the attainment of manhood and is still obligatory amongst North American tribes, amongst whom it only ends when they have entered into communion with their totemic

ancestor. I am inclined to view these commemorative tablets as commemorating an analogous rite and perpetuating the visions of successive members of one ruling family, or clan. The divinity, invariably associated with serpent symbols, seems to be Quetzalcoatl, the divine twin or serpent, exhibiting in some cases the emblem of the Sun, but evidently revealing itself to each personage under a slightly different form.

Figure 47.

The accompanying drawing (fig. 47) of one of the Santa Lucia bas-reliefs, reproduced from Dr. Habel's work, will suffice to establish its resemblance to Padre Oliva's description of the apparition seen by the youthful Inca Yupanqui. After a careful comparison of the text to the sculptured bas-relief, it must be admitted that a more graphic and impressive illustration of the episode can scarcely be imagined. Its lower portion displays a youthful figure, looking upwards and exhibiting a necklace, the circular ear-pieces and royal fringe or llautu of the Incas. From his shoulders hangs the skin of a puma or lion with its head downwards. Molina relates that lion-skins with the heads were specially prepared for the ceremonial when youths were admitted into the ranks of knighthood, the last rite of which was the piercing of their ears and the enlargement of the orifice made.[28]

[pg 155]
The youth wears a singular head-dress, or diadem, consisting of what appears to be an eye with conventionally drawn upper lid, surmounted by three pointed rays, behind which some long wavy feathers are visible.[29]

The celestial apparition to which the youthful figure is looking up, likewise exhibits the same necklace, pieces, and royal fringe of the Incas. Indistinctly though some of the details are given, it seems as though intertwined serpents encircled its head and possibly its neck. The head of the vision is surmounted by an enlarged rendering of the conventionally drawn eyelid and three pointed rays which form the diadem of the youthful knight. The face of the vision occupies, however, the place of the eye on the diadem. In this connection it is interesting to note that in the Nahuatl language, which, as (*op. et loc. cit.*) proven by Buschmann, was spoken in Guatemala where the bas-relief was found, the word ixtli designates face, whilst ixtololotli signifies eye. Situated between the right elbow of the celestial figure and the diadem of the youth, there is a diminutive reproduction of the eye, eyelid and

three rays, with the addition that what appear like two (or three?) drops of water or two eyes descend from it towards a square symbol which resembles the Mexican sign for tlalli = earth, whilst the eye symbol is closely analogous to a well-known Mexican sign which has been interpreted as a star, and has, but not as yet satisfactorily, been identified with the planet Venus. Without pausing to study this sign as it appears in ancient Mexico I point out that the position and mode of representation of the upper figure in the bas-relief sufficiently show that it is an image of a celestial being or vision in the act of receiving the supplication of a youth who is wearing divine insignia. There being a possibility that some of these accessories may be somewhat indistinct in the original bas-relief now preserved at the Royal Ethnographical Museum at Berlin, I do not venture to draw special attention to the possibility of further points of resemblance between the Peruvian tradition and this Guatemalan sculpture.

[pg 156]
At the same time I shall not omit allusion to the wavy figure winding upwards from the waist of the supplicant, which recurs in four out of the seven slabs. It may yet prove to answer to the description of “a sort of serpent,” which is recorded as twining over the shoulders of the vision who was “dressed like the Inca.” The lion's head which appears in the drawing to cover the left hand of the supplicant and the fact that his left foot only, in some cases, wears a sandal, are important and interesting features to which I shall revert further on.

Without attempting to offer any explanation of the truly remarkable fact that a bas-relief exhumed in Guatemala should so strikingly agree with a description preserved in a Peruvian tradition, I shall merely point out a second similar though much less remarkable case of agreement.

Padre Oliva records two instances in which a “royal eagle” figures in connection with members of the Inca

dynasty. One of these relates to the ancestors of Manco Capac, the reputed founder of Cuzco. His great-grandmother, being abandoned by her husband, attempted to sacrifice her young son to Pachacamac. A royal eagle descended, carried him away in his talons and set him down in an island off the Pacific coast, named Guayan, "because it was covered with willows." Oliva explains this tradition as a fanciful way of recording the fact that the youth's life was probably endangered, and that he had fled and taken refuge on an island. At the age of twenty-one he made his way back to the continent on a raft, but was seized by hostile people. His life was, however, saved by the daughter of a chieftain who returned with him to the island. Her name is given as Ciguar, a word strangely like the Nahuatl Cihuatl = woman. She bore him a son who was named Atau (*cf.* Ahau and Ahua = Maya and Mexican words for lord or chief), who was, in time, the father of Manco Capac, the reputed founder of civilization in Peru. When the latter was a child "an eagle approached him and never left him." In view of these traditions it is interesting to note that, on two of the Santa Lucia bas-reliefs figured by Habel and reproduced by Mr. Hermann Strebel in pl. II, fig. 13, of his extremely useful and comprehensive monograph on the bas-reliefs of Santa Lucia, an eagle is represented in connection with a figure wearing divine insignia.

On one of the seven analogous slabs representing a personage [pg 157] addressing a supplication to a celestial apparition, a large eagle or vulture is actually sculptured behind the supplicant, being, as it were, his individual totem (Strebel, Pl. II, fig. 5).

A drawing of a part of another slab (Strebel, Pl. II, fig. 13) displays an eagle or vulture holding in his beak the body of a bearded personage who wears a neck ornament and circular ear pieces, and from whose head two serpents hang. This last detail associates him with the celestial figure which usually displays knotted serpents on or

above its head, suggesting its connection with Quetzalcoatl, the divine title of the Supreme Being and also of the supreme rulers of the Mexicans. It is curious to find in Peru a tradition recording that, when "the Pachacuti Inca Yupanqui undertook the conquest of the Antisuyus with 100,000 men, their Huaca sent forth fire and stopped the passage with a fierce serpent which destroyed many people. The Inca raised his eyes to heaven and prayed for help with great sorrow, and a furious eagle descended, and seizing the head of the serpent raised it on high, and then hurled it to the ground. In memory of this miracle the Inca ordered a snake to be carved in stone on the wall of a terrace in this province, which was called Aucapirca." When divested of all fanciful details, the foregoing Peruvian traditions seem to show that the eagle was the totem of one or more of the Incas and that the serpent was the totem of a tribe which was conquered by the Incas. It is likewise recorded by Padre Oliva that the Inca named Mayta Capac Amaru ordered his shield to be painted with weapons and a serpent = Amaru, "because he had killed one in the Andes and therefore took it for his surname."

It is impossible for any Mexicanist to read the foregoing texts without recalling that, in the City of Mexico, there is an unexplained bas-relief which was put up by the Spaniards after the Conquest but evidently figures a native tradition. It represents an eagle bearing in his talons a personage, wearing a diadem, beneath whom is a group of native weapons.[30] The arms of Mexico representing an eagle holding a serpent in its talons and resting on a cactus, is too well known to require comment and recalls the Peruvian tradition of the eagle of the Incas conquering the serpent-totem of a hostile people.

Striking as these undeniable resemblances undoubtedly are, they [pg 158] would not, by themselves, justify the immediate conclusion that an actual direct connection existed between the Peruvian traditions and the Guatemalan and Mexican bas-reliefs which almost seem

to illustrate the same or analogous incidents. At the same time they prove that, besides their scheme of government, the Incas had certain myths or traditions in common with the civilized tribes inhabiting Central America.

It is well to bear in mind that the situations of Cuzco in Peru and Santa Lucia in Guatemala are both adjacent to the Pacific coast with an intervening distance of about 27-½ degrees of latitude. But 15 degrees, however, lie between the northern boundary of modern Peru and the southern boundary of Nicaragua where, as proven by Buschmann, innumerable names of localities in the Nahuatl language testify to its ancient occupation by a Nahuatl-speaking race.

It is noteworthy that this eminent philologist observed how the name employed to designate the bamboo bed of the Cacique Agateite, in Nicaragua, "barbacoa," was the same as that of the wooden bed or litter used by the Inca in Peru (*op. cit.* p. 756). Buschmann likewise identified the word galpon = great hall or house. He also expressed the opinion that "the Quechua word *pampa* resembles the Mexican *amilpampa ehecatl* = the south wind, but the Mexican is formed by the affixes pan and pa and the Quechua substantive means an even, open plain. At the same time this meaning and form could be derived from the Mexican affixes" (Buschmann, Ueber Aztekische Ortsnamen III, 7, p. 627).

Following this precedent I have ventured to search for further resemblances between Nahuatl and Quechua words, and one of the remarkable results I obtained was the discovery that the well-known Quechua name for colonists = Mitimaes, the meaning of which, in Quechua, is not forthcoming, seems to be connected in sound and meaning with the Nahuatl Ce-mitime = sons of one mother (Molina's dictionary). It is superfluous to point out how appropriate this designation would have been for the colonists who invariably founded fresh centres of civilization on the plan of the central metropolis. A brief

comparative table, the result of an investigation which lays no claim to be more than a rudimentary attempt, is published as an appendix to this paper, with the hope that it may stimulate philologists to supersede it by exhaustive studies of the subject. A careful examination of the table tends [pg 159] to prove that certain Nahuatl, Quechua and Maya words had a common origin and shows that a closer connection existed between the Nahuatl and Quechua languages than between Nahuatl and Maya or the Quechua and Maya.

I shall have occasion to refer to several of the words I have tabulated. At present I would draw attention to an analogy which bears directly on the subject of this paper and is of utmost interest and importance. If carefully studied it will be seen that the title “Pacha Yachachic,” applied in Peru to the Creator, proves to be allied in sound and meaning to the Mexican title Yaca-tecuhtli, “the lord who guides or governs.” According to Sahagun, this was “the god of the traders or traveller-merchants.” He had five divine brothers and one sister, each of which was separately worshipped by some travellers, whilst others, on their safe return from distant and dangerous expeditions, offered sacrifices to the whole group collectively. I leave it to each reader to make his own inference as to whether this celestial “traveller's guide” with his six brethren can have been other than Polaris and Ursa Minor. The difference in the magnitudes of this constellation would naturally give rise to the idea of a group composed of individuals of different ages and sizes; the “little sister” probably being the smaller of the four intermediate stars of the constellation and suggesting tales of adventures relating to the mythical sister of six brothers.

It is superfluous to emphasize how natural it would have been to offer a thanksgiving to the “traveller's star” on returning from a distant voyage, but I will point out that for coast navigation between Guatemala and Nicaragua and Peru, the adoption of Polaris as a guide was and is a

matter of course. It is well to bear in mind that we are dealing here with navigation north and south, along a sheltered coast, for a distance not exceeding that of the coast-line between Gibraltar and Hamburg. An instructive example of primitive navigation, under analogous circumstances, has been communicated to me, from personal observation, by Commander Barber of the United States Navy.

Native traders, who navigate north and south in small crafts along the coast between Ceylon and Karashee, still use, at the present day, an extremely primitive method of estimating latitude, which is entirely based upon observations of the pole-star. Their contrivance consists of a piece of wood four inches square, through [pg 160] which a hole is bored and a piece of cord, with knots at intervals, is passed. The square is held at arm's length and the end of the cord is held to the point of the navigator's nose in a horizontal line, the height being so adjusted that the pole-star is observed in contact with the upper edge of the piece of wood. There are as many knots in the cords as there are ports habitually visited, and according to the length of the cord required for the observation of Polaris in the said position, the mariner knows to which port he is opposite.

According to Sir Clements B. Markham,[31] the original inhabitants of the Peruvian coast fished in boats made of inflated sealskins. It is well known that the coast-tribes of Mexico and Central America employed boats of various kinds and some of great size. The Mexican tradition relates that the culture hero Quetzalcoatl departed in a craft he had constructed and which is designated as a coatlapechtli = coa = coatl = serpent or twin, tlapechtli = raft. It is open to conjecture whether this construction, “in which he sat himself as in a boat,” may be regarded as a sort of double or twin raft, or a boat made of serpent or seal (?) skin. In order to form any opinion, the name for seal in the Nahuatl and other languages spoken by the coast tribes should first be

ascertained and compared with the native names for serpent.

The Maya colonists who founded the colony on the Mexican coast, and are known as the Huaxtecans, are described as having transported themselves thither by boats from Yucatan. In the native Codices and in the sculptured bas-relief at Chichen-Itza, there are, moreover, illustrations of navigation by boats. As dependent upon Polaris as their East Indian colleagues of to-day, it is but natural that the ancient Mexican traders by land or sea expressed their gratitude by offerings to Polaris and Ursa Minor.

Let us now return to Peru and examine whether there is any proof that the "Teacher or Guide of the World," the Supreme Being of the Incas, was identical with the "Lord who guides" revered by the Mexican navigators.

I have already demonstrated that in ancient America the native scheme of religion and government was but the natural outcome of certain ideas suggested by the observation of Polaris and the circumpolar constellations. I have likewise quoted the remarkable qualification of a supreme divinity made by Inca Yupanqui, who [pg 161] raised a temple in Cuzco to the Creator who, superior to the sun, could rest and light the world from one spot. It is an extremely important and significant fact that the principal doorway of this temple opened to the north,[32] and that the "true Creator" is alluded to as an invisible power, the knowledge of which was transmitted by the Incas from father to son. Thus Salcamayhua records that on one occasion the young Inca Ccapac Yupanqui exclaimed "I now feel that there is another Creator of all things [than that worshipped in the Andes], as my father Mayta Ccapas Inca has indeed told me."[33] Considering that in the latitude of Cuzco, situated as it is 14° below the equator, Polaris is invisible, the conditions thus recorded as existing in Peru are exactly those which might be expected to exist if a religion founded on pole-

star worship had been carried southward to a region in which the star itself was invisible. The orientation of the temple would designate the north as the sacred region and the star-god would become an invisible power whose very existence would have become traditional and necessarily be accepted on faith by native-born Peruvians and converted sun- and moon-worshippers.

It is a remarkable fact that a descendant of the Incas has furnished us with actual proof that the Supreme Creator revered at Cuzco was not only associated with a star, but also with the figure of a cross, each branch of which terminated in a star. We are indebted to the native chronicler Salcamayhua for some extremely curious drawings, which are reproduced here from his account of the Antiquities of Peru.[34] In treating of the primitive astronomy in America in my special paper on the native calendar, I shall refer to these in greater detail. For my present purpose it suffices to designate the following figures.

Salcamayhua records that the founder of the Peruvian Empire, Manco Capac, ordered the smiths to make a flat plate of fine gold, of oval shape, which was set up as an image of the Creator (*op. cit.* p. 76). The Inca Mayta Ccapac, "who despised all created things, including the sun and moon," and "ordered his people to pay no honour to them," caused the plate to be renewed which his "great grandfather had put up, fixing it afresh in the place where [pg 162] it had been before. He rebuilt the 'house of gold' and they say that he caused things to be placed round the plate, which I have shown, that it may be seen what these heathens thought." The central figure on this plate consists of the oval image of the Creator, fig. 48, *c*. Close to its right are images designated by the text as representing the sun and morning star. To the left are the moon and the evening star. Above the oval and touching it, is a group of five stars forming a cross, with one star in the centre. Below it is a cross figure formed by lines uniting four stars. In this case, instead of being in the

middle, the fifth star is attached to the lower edge of the oval, which is designated as “the image of Uiracocha Pacha-Yachachic, the teacher of the World.” Outside of the plate is what appears to be an attempt to explain more clearly the relative positions of the group of five stars to the oval plate (fig. 48, *a*). It represents the oval and one star in the centre of a cross formed by four stars. The question naturally suggests itself whether the group of five stars forming a cross may not represent the Southern Cross, popularly called the pole-star of the south and which consists of four principal stars, one of which is of the first and two of the second magnitude. This possibility opens out a new field of inquiry, and calls for the statement of the following facts, which I quote from Amedée Guillemin's Handbook of Popular Astronomy, edited by J. Norman Lockyer and revised by Richard A. Proctor.[35]

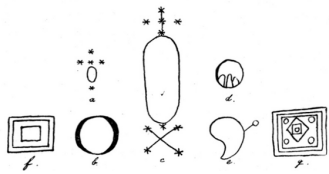


Figure 48.

“In [our] enumeration of the circumpolar constellations of the South, we have said nothing of the stars situated at the Pole itself. The reason is simple; there are none deserving mention, and with the exception of one star in Hydræ, none approach the third magnitude. [pg 163] There is not then, in the southern sky, any star analogous to Polaris in the northern heavens.” M. Guillemin proceeds to explain, however, that this poverty of the polar regions is singularly compensated for by the stars of the equatorial zone. It seems more than probable that primitive astronomers or their descendants, who had been reared in a knowledge of the northern Polaris and of the periodical motion of the circumpolar constellations, should continue their observations in whatever latitude they found themselves. It seems possible that they may have observed the Southern Cross and recognized its closeness to the pivot or centre of rotation; but from personal experience and observation I can vouch for the fact that this constellation could never have produced upon primitive man the powerful impression caused by Ursa Major and Cassiopeia revolving around Polaris. It is, of course, impossible to conclude to what extent the ancient Peruvians revered the Southern Cross. It suffices for the present to establish the incontrovertible facts that the image of the motionless Creator, set up by the Incas, was associated with stars and with the cross and that the

door of the Cuzco Temple, where this image was kept, faced the north, the direction whence, according to native traditions, the culture-heroes had come to Peru.

The following data furnish further important proof that certain peculiar ideas, symbols and metaphors were held in common by the civilizations of Peru, Central America and Mexico. Returning to the bas-relief (fig. 47), I recur to an interesting feature, which I have already pointed out, namely, that the left arm of the personage terminates in a tiger's or puma's head. In connection with this peculiarity it is interesting to note that the native historian Ixtlilxochitl cites his illustrious ancestor and namesake, the Ome Tochtli Ixtlilxochitl of Texcoco, as addressing his young son Nezalhualcoyotl as "my dearly beloved son, tiger's arm."[36] As the young prince is referred to in the same chapter as "the boy Acolmiztli [=tiger's arm] Nezalhualcoyotl," it is obvious that the metaphor constituted a title preceding the actual name. It was Nezalhual-coyotl who instituted the worship of Tloquenahuaque, the true Creator, and discountenanced human sacrifices.

If the other analogous Santa Lucia slabs be also examined it will be seen that although the positions of the bodies and arms vary, and the form of the head is different in each instance, it is [pg 164] invariably the left arm that terminates in the individual emblem. This sort of consecration of the left hand seems particularly significant for the following reason: Padre Anello Oliva records that the Inca Yupanqui, the founder of Cuzco and the same whose vision agrees so strangely with the bas-relief, was surnamed Lloque=the left-handed,[37] and was noted for having visited the whole empire three times. His reign was long and prosperous, and he left a record as a conqueror and builder. He likewise sent his son Mayta-Capac to visit the whole empire, accompanied by sages and councillors. I recall here it was Yupanqui who proclaimed to the sun-worshippers of Peru, the existence and superiority of an immutable Creator.

I have already shown how, in Peru, it was a dictum that the upper division of the empire was to bear the same ideal relation to the lower as that of an elder brother to a younger or a right hand to the left. It is, therefore, possible to infer that, on ceremonial occasions when it is recorded that the Hanan Cuzco and Hurin Cuzco people were stationed at either side of the Inca, the Hanan or chieftains constituting the nobility were to his right and the Hurin people or lower class, to his left.

It is truly remarkable that it is a passage in the Annals of the Cakchiquels, the people now inhabiting the region of Guatemala where the Santa Lucia bas-reliefs were found, that contains the clearest statement regarding the division of a tribe into two classes and the relative positions assigned to each of these, according to ceremonial usage. The passage relates: "We, the 13 divisions of warriors, and the seven tribes ... we came to the enclosure of Tulan, and coming, gave our tribute. The seven tribes were drawn up in order on the left of Tulan. On the right hand, were arranged the warriors. Firstly, the tribute was taken from the seven tribes, next from the warriors."[38]

[pg 165]
Buschmann has recorded the interesting fact that, in Nahuatl, the right hand is designated as "the good, clever or wise" = yec-maitl or mayectli, also ma-imatca or ma-nematca (from yectli = good and imati = to be clever or wise). Molina's dictionary furnishes us with the following Nahuatl names for the left hand, etc.

Opoch maitl, Opuch maitl, Opuch maye: left hand.
Opochiuia = v. to do something with the left hand.
Topuchcopa, the left, at the left hand, or side.

In Mexico the totemic lord of the chase was named Opochtli. The much-discussed name Huitzil-opochtli is considered by some to signify "the left-handed humming-bird."

The foregoing proves that in Peru, Guatemala and Mexico

a caste-division was associated with left-handedness and that the expression “left-handed” was employed as an honorific or distinctive title. It is obvious that before reaching the point when the left hand would be invested by a distinctive mark, as in the Santa Lucia bas-reliefs, the above ideas must have been prevalent for a very long time.

I have already pointed out that a striking similarity of ideas survives amongst the Zuñi Indians of to-day.

As to the native tiger's head (puma or ocelot?) we find that it is the chief symbol of the central human figure on the great monolithic doorway of Tiahuanaco, Peru, a fact which testifies to a further community of thought.

[pg 166]
This central figure exhibits two tigers' heads on each shoulder and six around its head, disposed as rays and interspersed with what resemble drops of water. The transverse ornament carved on the breast exhibits four divisions, each of which terminates with a tiger's head. Four similar heads, looking upwards, are on the central decoration beneath the figure and the broad band at the base terminates in two large tigers' heads. What is more, on the fragment of a finely carved hollow stone object, which is preserved at the British Museum and was found at Tiahuanaco by Mr. Richard Inwards, there are the finest representations of the swastika which have as yet been found on the American Continent, and each of its branches terminates in a tiger's head, resembling those sculptured on the monolithic doorway. The fragment consists of the half of what seems to me to have been the top or handle of a staff or sceptre. I am indebted to the kindness of Mr. C. H. Read of the British Museum, for a rubbing of the carved fragment and for the permission to reproduce it here (fig. 49). The central swastika is angular and its form recalls that of the Mexican Calendar swastika (fig. 9). At each side of it are portions of what originally were two rounded swastikas, which also terminate in

tigers' heads. These and the size of the fragment seem to justify the inference that another square swastika was originally sculptured on the opposite side, making two rounded and two square swastikas in all.

Figure 49.

It would be difficult to overestimate the importance of this fragment, for it proves to us that in Tiahuanaco, the swastika was a sacred symbol. Its association with the puma or ocelot, links it to the central figure on the monolithic doorway and, possibly, connects this with the Mexican identification of the ocelot with the Ursa Major, with “the lord who walks around,” or the lord of the underworld, Tezcatlipoca. The two forms of swastika seem to testify that, in Tiahuanaco also, the idea of the Above and Below prevailed and that the angular form symbolized the subdivision of the earth and the rounded one that of the heavens. The rows of personages sculptured on the doorway at each side [pg 167] of and facing the central figure seem to indicate that this commemorates an establishment of tribal organization.

The distribution of the sculptured figures is as follows:

8 figures = 2 × 4 } Central { 8 figures
8 figures = 2 × 4 } 6 × 4 { 8 figures
8 figures = 2 × 4 } figure. { 8 figures.

The figures on the upper row to the right and left, making

sixteen in all, are all alike—so are the sixteen figures on the second and the sixteen on the third rows.

Without attempting to describe all the insignia which characterize the figures on each of the three rows, I refer the reader to the magnificent plates contained in Drs. Stübel and Uhle's monumental work on the Ruins of Tiahuanaco, and merely note that each figure in the uppermost row exhibits a bird's head in front of its head-dress. All figures in the second row are completely masked as condors. In the third row a tiger's head decorates each head-dress. It is curious to find that whilst the birds' and tigers' heads designate their wearers as heads or chieftains, these emblems strikingly coincide with the classification of the highest Mexican warriors into two divisions, known as “the ocelots and the eagles.” If attention is bestowed upon the number of emblems or figures and their distribution it will be seen, in the first case, that the central figure exhibits on his person twelve tigers' heads in all, *i. e.*, six on his head, two on each arm and two on his breast-plate. Sixteen chieftains exhibit the same emblem and the carved fragment with the swastika appears to have originally exhibited sixteen tigers' heads, distributed into homogeneous groups of four.

It cannot be denied that the forty-eight figures on the doorway are first divided into two groups of twenty-four by being placed to the right and left of the central figure. Each division of twenty-four is grouped as 3×8, which is also 6×4, and yielding a total of 12×4 or 4×12 figures.

Curiously enough the number 12 coincides not only with the number of heads exhibited by the central figure, but the entire bas-relief offers a certain agreement with the numerical divisions of Cuzco which I have summarized as having been divided into two halves and four quarters and subdivided into 12 wards, the names of which doubtlessly corresponded with those of their inhabitants. Personally I am inclined to consider that the purpose of the Tiahuanaco [pg 168] bas-relief was to establish a

certain tribal organization and impose certain distinctive insignia upon each tribe. The inference that each sculptured figure was differentiated from the other by being painted in various colors is justified by Molina's account, already cited, that “in Tiahuanaco the ‘Creator’ had his chief abode, hence the superb edifices in that place, on which edifices were painted many dresses of Indians ... thus each nation uses the dress with which they invest their huaca and they say that the first that was born [in Tiahuanaco] was there turned into stones, others say that the first of their lineages were turned into falcons, condors and other animals and birds.”

It is with deference, however, that I submit my conclusion and refer the question to the supreme authority of Drs. Stübel and Uhle and Mr. Bandelier, whose attainments and exhaustive researches in the region of Tiahuanaco qualify them to utter a final judgment upon this interesting subject. According to Dr. Max Uhle the civilization established at Tiahuanaco antedates that of the Incas. It may yet be proven that whilst Tiahuanaco was settled in remote times by colonists from the North, the Inca civilization was due to a later migration. It certainly appears that, in Tiahuanaco and Cuzco, the identical fundamental scheme of government and organization prevailed.

I shall yet have occasion to point out that in Mexico and Yucatan and Central America there are also monuments exhibiting multiples of 12 and 4 and also 16 chieftains. Meanwhile it is worth while to note here briefly, some analogies to Mexican and Maya antiquities found in Peru.

I am much indebted to Sir Clements D. Markham, the President of the Royal Geographical Society, for the kind permission to reproduce here a hasty drawing he made, in 1853, of a gold plaque (size 5-8/10 inches) found in Cuzco (fig. 50). It was then in Lima, being the property of the President of Peru, General Echerrique. This curious relic exhibits the image of a monstrous face surrounded

by a band with subdivisions containing various signs. The plaque was looked upon by its owner as a Calendar, but Sir Clements Markham, after studying its subdivisions with a view of ascertaining their agreement with the twelve divisions of the Peruvian year, preferred to let his notes on the subject remain unpublished, not having come to a satisfactory conclusion on the subject. I am permitted, however, to state that Sir Clements Markham specially [pg 169] noted the resemblance of a sign, which is represented on the cheeks of the central figure and recurs four times on the encircling band, to the well-known Maya glyph ahau = chief, lord.

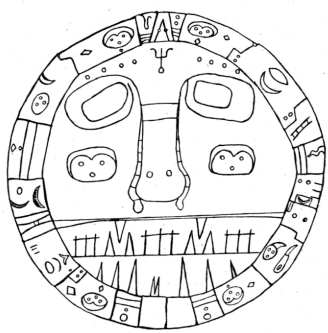


Figure 50.

It is, indeed, a cursive representation of a human head and moreover resembles those figured on the garment of a gigantic red sandstone statue found at Ak-Kapana and figured in Stübel and Uhle's Tiahuanaco. On this garment the heads alternate with squares and form a close design. This resemblance between the conventional faces on this archaic statue and those on the gold plaque has made me attach more importance to the latter and at all events regard it as preserving ancient native symbolism. In connection with these I wish to point out that the plaque itself offers a certain resemblance to well-known Mexican

calendars, the centre of which usually exhibits a face which is surrounded by a band with day or month signs. It is remarkable that above each eye there are four dots, especially as the Quechua word for eye = naui is homonymous with the Nahuatl numeral four = nahui, and this is so constantly associated with an eye in the Mexican sign [pg 170] Nahui ollin = four movements (*cf.* fig. 2). As strange a coincidence as this is furnished by the mark on the forehead of the image, not because the latter resembles the sect mark of the Vishnu worshippers, but because it offers a marked analogy to the Mexican Acatl sign which is frequently carved or painted as a cane standing in a square receptacle with recurved ends. I am strongly tempted to interpret this symbol according to the native mode of thought, as signifying the centre, the union of the Above and Below and to regard the upper part of the face itself as a representation of the Above, the heaven, with its two eyes (the Moon and Sun), whilst the lower part and teeth, as in Mexico, signified the Below, the earth and underworld. By means of the head on each cheek and the number four over each eye, the dual and quadruple rulerships of the empire could well have been expressed. Postponing a more thorough study of the gold plaque, I merely note here that it exhibits curious analogies not only to Maya but also to Mexican symbolism.

Another instance of the same kind is furnished by a possibly modern but curious small silver pendant of unquestionably native workmanship. It is preserved at the Ethnographical Museum at Vienna and is figured in the Report of the International Congress of Americanists which was held at Berlin in 1888 (pl. 1, fig. 4, p. 96). Reputed to be from Cuzco, it represents a figure of the sun surrounded by eight straight and intermediate undulating rays. Two serpents are figured beneath the sun; their bodies extend across the pendant and their heads with open jaws almost meet in the centre. A figure, wearing a peculiar head-dress, is kneeling in worship beneath the symbols, which undoubtedly recall the

Mexican mode of representing two serpents meeting, as on the Calendar Stone of Mexico, for instance.

As I am tracing analogies at present, I should like to ask the reader to compare the symbols figured and designated by Salcamayhua as that of the earth (see his fig. *c*, pl. LXVI) with the sacred vase from the Maya MS. (his fig. II, pl. LIX) and the form of the Peruvian symbol for the sea (his fig. *e*, pl. LXVI) with the peculiar Mexican shell ornament (fig. 1, no. 10). Insufficient though the above analogies may seem in themselves, they are valuable in conjunction with the other data presented and strengthen the conclusion that the same symbolism prevailed in Peru as in Central America, Yucatan and Mexico.

[pg 171]
Let us now rapidly journey northwards from Peru to these countries and briefly record the traces of the existence of the same ideas and quadruplicate form of government which we may encounter en route. In the elevated plains of Bogota we find positive proof that the Muyscas held the same ideas as their southern and northern neighbors. Their culture hero, Bochica or Ida-can-zas, was the personification of the Above and of its symbol, the Sun, whilst his wife was Chia, a name suspiciously like Quilla, the Quechua for moon. He was high-priest and ruler but counselled the Muyscas to elect one of themselves, a chief named Hunc-Ahua, to be their Za-que or civil ruler. Ida-can-zas instituted the Calendar and taught the Muyscas to appoint four chiefs of tribes whose names or titles are recorded as Gameza, Busbanca, Pesca and Toca. The institution of a dual government is indicated by the record that the high-priest dwelt at the sacred town Aura-ca and the Za-que at Tunja.

It is extremely curious to notice that Ida-can-zas, in Bogota, did precisely what Cortés found it expedient to do after the Conquest of Mexico. The latter assumed the supreme rulership over the nobility, became the “lord of Heaven” and instituted a native chieftain, bearing a

female title, as his coadjutor, the lord of the earth, and the ruler of the people of the lower class.

It may be worth making the passing remark that the title of the Muysca culture-hero contains the word “can” and thus recalls the Maya Kukulcan and that the title Za-que offers a certain resemblance to the Maya title Chac, whilst the name Hunc-ahua seems strangely similar to Hun-ahau which in Maya would signify “one lord.” It is for Muysca scholars to enlighten us as to the derivation and meaning of the above titles and name.

Regretting the lack of time and documents which have prevented me from obtaining further data I now return to Guatemala and the vicinity of the Santa Lucia bas-reliefs. Referring to the introduction to their Annals[39] we learn that the Cakchiquel tribe was but one of four allied nations, each of which had its capital, named Tecpan, as follows:

Nations: Capitals.
Cakchiquel: Tecpan Quauhtemallan,
Quiche: Utatlan,
Tzutuhil: Atitlan,
Akahal: Tezolotlan.

[pg 172]
According to Mr. A. P. Maudslay's authoritative statement, these nations were engaged in warfare against each other at the time of the Conquest. Tezolotlan was termed the “tierra de guerra” the land of war, and the precise locality of its tecpan or former capital has not been traced, although it seems to have been close to Rabinal or in the valley of that name.

It is well known that, under the rulership of Tizoc, the Mexicans extended their conquests into Guatemala. Buschmann has, moreover, proven that the foregoing names of the capitals, of what were at one time four provinces, are pure Nahuatl, which fact establishes the existence of Nahua supremacy in these regions.

It is curious to find that one of the Santa Lucia slabs seems to commemorate the existence of a central rulership and that of the four quarters. It is reproduced in Mr. Strebel's publication already cited and represents a central personage holding a head and a tecpatl, whilst four lesser personages, each carrying a head, are figured as walking away in four opposed directions. As, according to native symbolism, the head is the symbol for chieftain this slab seems to commemorate the establishment and at all events testifies to the existence in Guatemala of the scheme of government now so familiar.

In their Annals, the Cakchiquels record, as I have already shown, that they carried their tribute to "the enclosure of Tulan," a designation which supports my inference, previously maintained, that Tulan was derived from the Maya tulum, = a fortification, an enclosed place or that which is entire, whole, etc., and applied always to the metropolis of a state.

An ancient Cakchiquel legend relates, moreover, that, according to the "ancient men," there had been four Tulans: one in the east, one in the north, one in the west and one "where the god dwells." This would obviously have been situated towards the south in order to accord with the general scheme. I cannot but think that this record testifies to the existence of an extremely ancient state which starting from one metropolis had gradually developed into four great Tullans, to one of which the four tecpans of Guatemala pertained. The fact that the Spaniards found the four nations living close together, with capitals or tecpans bearing Nahuatl names and in constant warfare with each other, seems to indicate the destruction of their own ancient metropolis or Tullan by their Mexican [pg 173] conquerors and the consequent disintegration of their former government.[40]

The Mendoza Codex teaches us that when the Mexicans conquered a land they first burnt and utterly destroyed the teocallis situated in the heart of its central capital.

They razed this to the ground, and carried off to their own metropolis the totemic images of the rulers of the tribe. The barbarous institution of human sacrifice, which was only practised to a great extent by the Mexicans when the necessity to obtain more plentiful food supplies for their rapidly increasing population forced them to become a nation of warriors and conquerors, seems indeed to have been adopted as a fear-inspiring, symbolical rite commemorating the conquest and destruction of an integral government.

The victim, usually a chieftain taken prisoner in warfare and clad with his insignia and the raiment of his people, was stretched on the stone of sacrifice and, figuratively speaking, represented his country and its four quarters. The tearing out of his heart by the high-priest, armed with the tecpatl, the emblem of supreme authority, signified the destruction of the independent life of his tribe as much as did the burning of the teocalli, and of its capital. It would seem as though the horrible custom of annually sacrificing one or more representatives of each conquered tribe, had been adopted as a means of upholding the assumed authority, inspiring awe and terror and impressing the realization of conquest and utter subjection. It is known that sometimes a member of a conquered tribe voluntarily offered himself as a victim in order to release his people from their obligation, and thus earned for himself immortality.

An insight into the native association of ideas is afforded by Sahagun's note that the lord or chieftain was “the heart of his Pueblo,” which means town as well as population. The death of the sacrificed chief, therefore, actually conveyed the idea of the destruction of the tribal government to his vanquished subjects. It remains to be seen whether the subsequent partition of portions [pg 174] of his dead body amongst the priesthood and their ritual cannibalism did not signify the absorption of the conquered population into the communal life of their victors. The preservation of the victim's skull on the

Tzompantli, as a register of the conquest of a chieftain, would also be the logical outcome of the native line of thought and symbolism.

At the risk of making a somewhat lengthy digression I will again refer here to a point I have already touched upon, namely, the Mexican employment of the human figure as an allegorical image of their Empire or State, the idea being that the four limbs represented its four governmental and territorial divisions and that these were governed by the head = the lord of the Above or heaven, and the heart = the lord of the Below or earth. A careful study of the native Codices has shown me that such was the native allegory which indeed can be further traced. The territory of a state reproduced the organization of the human body with its four limbs, each of these terminating in minor groups of five.

According to the same set of ideas the cursive image of a state could be conveyed by a main group of five dots, situated in the centre of four minor similar groups. Cross-lines expressing the partition into four quarters would complete such a graphic and cursive presentation of the scheme and not only signify its territorial but also its governmental features. It is noteworthy that, in Nahuatl as in the Quechua, the title for minor chief is homonymous with the word for fingers.

The Nahuatl pilli is a title for a chieftain or lord and also signifies child and fingers or toes. A finger is ma-pilli, the prefix ma, from maitl = hand, designating the fingers as the children of the hand. The thumb is qualified by the prefix uei = great.

Having gained a recognition of the above facts it is not difficult to understand the meaning of certain sceptres in the form of an open hand which occur as symbols of authority borne by chieftains in the native Codices.[41] I know of one important instance, indeed, where an arm with an open hand is represented as standing upright in the centre of a circle divided into sections and zones

(similar to fig. 28, nos. 1, 3, 5, and 6).

The above mentioned examples, which I shall illustrate later, [pg 175] have led me to infer that whilst the arm symbolized one of the four divisions of the State, the hand symbolized its capital, the thumb its central ruler and the fingers his four officers or pilli, the rulers of the four quarters of the minor seat of government. In another publication I shall produce illustrations showing that the foot was also employed as an emblem of rule and that Mexico, Yucatan and Central America furnish us with actual proofs that the hands and the feet respectively symbolized the upper and lower divisions of the State.

It is thus curious to compare the name for thumb = uei-ma-pilli and the name Uei-mac (literally, great hand) which Sahagun gives as that of the "temporal" coadjutor of the Mexican culture-hero Quetzalcoatl, as well as the term, our toe = totecxopilli with the well-known title Totec = our chief or lord. In Yucatan the word for hand = kab is, as I shall demonstrate further on, actually incorporated in the title of the lords of the four quarters = Bakab. I am almost inclined to find a trace of a similar association in the Quechua word for fingers = pallca and the title palla bestowed upon noble women.

I have already mentioned in the preceding pages that the natural basis of the all-pervading native numerical division into $4 \times 5 = 20$ was the finger and toe count. The following table exhibits the general custom to designate 20 as one man or one count.[42]

Word for Man. Word for 20.
Nahuatl. tlacatl. cem-poualli = one count.
Quiché }
and } uinay = one man. uinay = " "
Cakchiquel }
Tzendal. hun-uinic = one man. hun-uinic = " "
Maya. uinic. hun-kal = " "

In the latter case the affix kal seems to be derived from the same source as the verb kal = to close up or fasten something, and to signify something complete or finished. At the same time the Maya uinal is the Maya name for the twenty calendar-signs, and the same association is demonstrated as existing in Mexico by the well-known picture in the Vatican Codex I (p. 75), which represents a man surrounded by the twenty Mexican calendar-signs.

As I shall treat of the same subject more fully in another publication, [pg 176] I shall but briefly touch upon the intimate connection there existed between these calendar-signs and the twenty classes into which the population was strictly divided. It is known that an individual received the name of the day on which he was born and it is possible to prove that this determined his position in the commonwealth, his class and his future occupation. Each child was formally registered by the priestly statisticians at birth, and at about the age of six, when his name was sometimes changed, he entered one of the two educational establishments where he was brought up by the State, under the absolute control of the priesthood and rulers. It can be gleaned that one of the chief cares of the latter was to maintain the same average number of individuals in the distinct classes, to which the various forms of labor were allotted and who became in time identified with these. In order to keep the machinery of state in perfect adjustment, individuals had sometimes to be transferred from the class into which they were born, to another. In some cases this seems to have been arbitrarily ordered by the authorities, but the latter appear to have guided themselves by the position of the parents and to have established the custom that an individual might alternatively be transferred into the paternal or maternal class, but not into any other. As each class was, moreover, divided into an upper and lower one, it was possible for each person to elevate himself from the lower to the higher by individual merit or to incur abasement, for unworthy conduct, and being, as we have already seen, “reduced to the official rank of

women."

The direct outcome of such a form of organization was stringent laws governing marriage, it being expedient that certain classes only should intermarry, not only to avoid complications but also to ensure a certain degree of coöperation conducive to the prosperity of the State. In the tribal laws still existing amongst the native tribes of North America, I see the logical survivals of an ancient scheme of organization.

After gaining the above recognition of some of the actual duties of the priest-rulers of ancient Mexico, it is possible to understand the meaning of the native sentence, noted by Sahagun, that the native games of patolli and tlachtli constituted a practice in "the art of government." From this it is clear that the former, played by two individuals with dice and markers upon a mat in the shape of a cross, and symbolical of the Four Quarters, was originally [pg 177] invented by the priest-rulers for an eminently practical purpose. The mat being an image of the quadruple state and its subdivisions, it was possible to make it serve as a register-board exhibiting the distribution of the population, the number of individuals in each class and its death and birth rates. We are informed that when parents, according to the inflexible law, carried their newborn child to the priest, he consulted his books full of day-signs and foretold what its future was to be.

A proof that it was the positions of the stars which determined the season and furnished the means of fixing a date, is furnished by the fact that the stars were also "consulted" and believed to exert an influence upon the destiny of the child.

The implicit faith in the predictions of the priests and in the absolute influence of the position of the heavenly bodies and the date of its birth upon the individual indicates that the parents were kept in ignorance as to the workings of the machinery of state and that the

priesthood were reverenced for their power of prophecy. The belief that they could personally exercise a favorable influence over the destiny of the child seems also to have been encouraged in the parents, since an offering of gifts at the period of registration was customary. After the Conquest, when the native government had been completely broken up, and the enforced registration of birth and the prediction of the priest had utterly lost their original significance, native parents still consulted the surviving members of the priest-rulers; and these ancient statisticians, in order to gain a livelihood, continued to consult their books and uttered predictions as of yore, although their power to control their fulfilment had vanished forever. Ancient Mexico thus furnishes us with an interesting and instructive explanation of the origin of divinatory practices, prognostication at birth, etc. It shows us that, under the ancient form of established government, the sign of the date of a child's birth actually did control his future destiny, while it was unquestionably in the power of the priesthood, not only to predict his future, but also to exert a favorable or unfavorable influence upon it.

The above facts help us to understand the origin not only of divination, propitiation and the belief in the influence of day-signs, but also of the native games which became popular after the Conquest, when their original use and meaning had become obsolete.

Deferring further discussion of this interesting matter I will but [pg 178] draw attention to Mr. Stewart Culin's important study of “American Indian Games,”[43] which clearly establishes their “interrelation” and at the same time proves that they were based, as first distinctly insisted upon by Dr. Daniel G. Brinton, on the central idea and that of the four quarters of the world. Mr. Culin has gone so far as to fix the place of origin of the “platter or dice class of games which he has found recorded as existing among some 61 American tribes, in the arid region of the southwestern United States and Northern or

Central Mexico," and to conceive that "in ancient Mexico we find traces of its highest development."

I place the utmost value upon Mr. Culin's painstaking and conscientious researches and regard them as strongly corroborating my views exposed in the preceding pages. His identification of the pictured diagram in the Féjérvary Codex, as the counting circuit of the Four Quarters, with a presiding god in the middle, as in Zuñi, does credit to his perspicacity. I agree with him in considering that this chart could have been employed after the Conquest for a game or for divination, but trust that, upon perusal of this paper, he will admit that primarily the Féjérvary diagram expressed the native scheme of government and the calendar, which was no other than a means of ruling the classes by binding each of these to a special day and totemic sign. Each of the twenty classes or clans had its day, known by a particular sign which was also its totemic mark. As the day-signs recurred periodically, the chief or head of each clan became its living representative, assumed a totemistic costume and became the "living image of the ancestral teotl," or god of his people, of whose activity he rendered account to the central government. It is significant that the common native title for lords or chieftains was "tlatoque," literally, "the speakers," and that they were closely designated as the spokesmen of his people, who habitually kept silence in his presence.

The fact that the names and signs of the days are identical with the totemic tribal distinctions imposed for governmental reasons, is one which I shall proceed to demonstrate more fully. Meanwhile attention is now drawn to the chapter on the 7-day period in Dr. Daniel G. Brinton's "Native Calendar of Central America and Mexico," in which he surmises that the tribal divisions of the Cakchiquels "were drawn from the numbers of the Calendar."

According to the native records the institution of the Calendar was simultaneous with that of tribal organization and a minute study of both features reveals that it could not have been otherwise.

From the dawn of their history the Cakchiquels, as I have already shown, were divided into thirteen divisions of warriors (Khob, constituting the upper class) and seven tribes (Amag, constituting the lower class). A totem and a day being assigned to each division and tribe, they were, once and for all time, placed in a definite position towards each other and towards the state, and the order in which their chieftains were to sit in general council, and to assume or perform certain duties, was thus instituted. The 20-day period thus constituted a "complete count" and synopsis of the "thirteen divisions of warriors and seven tribes," but it also fulfilled other not less important purposes.

The day-signs were so ordered that the first, eleventh and sixteenth were major signs employed to designate the years, and identified with the four quarters, elements and their respective colors. The 20-day period, consisting as it also did of 4 major signs and of $4 \times 4 = 16$ minor signs, was as closely linked to the idea of the Four Quarters as it was to the Above and Below, represented by the $13 + 7$ division. It is therefore evident that a simultaneous reckoning of periods consisting of 5, 7, 13, and 20 days was ingeniously combined. I shall show in my special treatise how "the lords of the Night" employed in their astronomical calendar, 9-night and 9-moon periods for purposes of their own and how these also served to carry out certain ideas of organization, controlling persons. Although it embodied the results of long-standing primitive astronomical observation and accorded with the seasons and movements of the celestial bodies, the native Calendar was primarily a governmental institution, designed to control the actions of human beings and bring their communal life in accord with the periodical movements of the heavenly bodies.

In my Note on the Ancient Mexican Calendar System, communicated to the International Congress of Americanists at Stockholm, in 1894, I stated certain historical and astronomical facts which showed that the New Cycle, which began in 1507 with the year Acatl, had commenced on March 14th three days after the vernal equinox and that this delay had obviously been intentional, in order to wait for the new moon, which fell on March 13th at 11.40 A. M., and the planet Venus, "which was possibly visible both [pg 180] as morning and evening star between March 14th and 18th." The above facts, which have remained unchallenged since their publication, afford an insight into the astronomical attainments of the sun-priests and moon and star-priests and show an evident desire to begin a new era at a favorable time, when there was a conjunction of the heavenly bodies. Thus the terms of office of the lords of the Above and Below were entered upon and the machinery of state set into motion, in unison with striking celestial phenomena. It is impossible not to realize how great must be the antiquity of a system which, evolving from the rudimentary, ceremonial division of a tribe into seven parts, as a consequence of its primitive observation of the Septentriones, developed into a great and complex government dominated and pervaded by the abstract conceptions of the seven-fold divisions of the Above, Below, Middle and Four Quarters.

Deferring further comment I will proceed to demonstrate the practical value, for governmental purposes, of the classification of a community into twenty divisions with as many representative heads, their localizations at given points of the compass, and association with a calendar-sign and day, and will only refer to what I have already published in my Note on the Calendar, namely, how, by means of the combination of 13 numerals with the 20 signs, a unit of 260 days was obtained, and how each sign was combined but once with the same number, and a perfect system of rotation of periods, regulating office, labor, etc., was instituted. It is not possible for me to

enlarge here upon the features and merits of the system which I do not hesitate to term one of the most admirable and perfect achievements of the human intellect. My present purpose is to lay stress upon the fact that, in Mexico, the major calendar-signs were borne as titles by the rulers of the four quarters who presided in rotation over a year—the name of this and of their title being always in correspondence.

Nezahualcoyotl, the lord of Tezcoco, is recorded as possessing the title Ome Tochtli = 2 Rabbit, and would obviously have presided over the calendar periods of that name. This inference is undoubtedly corroborated by Nuñez de la Vega's following statement, quoted by Boturini:[44]

"Instead of the Mexican signs Acatl, Tecpatl, Calli and Tochtli, the Tzendals, inhabiting Chiapas, employed in their Calendar [pg 181] the names of four of their chieftains: Votan, Lambat, Been and Chinax.... They also figured a man named Coslahuntax, as seated in a chair...." Boturini remarks that this person should more correctly be named Imos or Max and was "the head of the 20 lords who were the symbols of the 20 days of the Calendar. Being the principal and initial sign, Coslahuntax represented in himself the period of thirteen days." As Dr. Brinton rightly notes[45] the name of the personage should be Oxlaghun tax, literally signifying "the thirteen divisions or parts."

We thus see that, whilst the names of the chiefs of the four quarters constituted the four major calendar-signs, one supreme lord embodied the attributes or "powers" of the 13 divisions of warriors and principal division. Thus the 13 divisions seem to have been regarded as 12 plus an all-embracing 1.

Nuñez de la Vega continues: "In the representations of their calendar they painted seven black persons, corresponding to the seven days of their reckoning." Boturini adds: these seven black men were no other than

the principal priest-rulers of this nation.... “They held in great veneration the ‘lord of the black men,’ who was entitled Yal-ahua.” Boturini comments on this utterance and explains that the latter was no other than the high-priest.

I point out the evident identity of Yal-ahua to the Mexican Yoal-tecuhtli = the lord of the Night, one of the titles given to Polaris and to his earthly representative, the high priest of the Earth and nocturnal cult. As already explained this personage bore in Mexico the female title, Cihuacoatl = Woman-serpent; but we also find this name for the earth-mother alternating with Chicome-coatl = literally, seven serpents. In Beltran de la Rosa's “Arte Maya” we find the word “Ahaucchapat,” translated as “Serpent with seven heads” and are thus led to infer that the Mexicans and Mayas had conceived the image of a “serpent with seven heads” as an allegory of the seven tribal divisions united in one body and bestowed this title to the representative of the Earth-cult, the high priest of the Below. It follows that, just as the number 13 resolves itself into 12 + 1, so the mystic number 7 proves to have been considered as 6 + 1, precisely what might be expected as the natural sequence of the derivation of the number from a circumpolar constellation, consisting of seven stars, [pg 182] one of which was Polaris. Nuñez de la Vega and Boturini's testimony teaches us that the Tzendals were organized into twenty divisions and that thirteen of these were embodied in one chief, while the seven others, associated with black, were personified by the high priest. The information that one individual was thus believed to unite in his person the attributes of several classes and that the lords of the four quarters and each of the twenty divisions bore names which were also calendar-signs, gain in value when it is realized that, in the opinion of Drs. Schellhas and Brinton, the invention of the native Calendar system may probably be assigned to the ancient inhabitants of Chiapas, where the Tzendals now dwell.[46] In treating of the ruins of Palenque situated in this region, I shall again refer to the Tzendals.

Meanwhile, let us examine the Cakchiquel tradition about Cucumatz, the sorcerer chief of the Quichés, since it also treats of the 7-day period. We are told that he "ascended to heaven for seven days and descended into the under world for seven days and then assumed, in rotation, four different animal forms during as many periods of seven days."

It is impossible not to recognize from this that, like the Zuñis of to-day, the Quichés "symbolized the terrestrial sphere by referring to the four cardinal points, to the zenith and nadir, the individual himself making the seventh number," and that Cucumatz, who was evidently the high priest and head of the seven tribes, assumed the totemistic attributes of each of these, in rotation, for periods of seven days each. In this case we have an interesting and suggestive variant of the scheme and it suggests the possibility that, possibly actuated by ambition, Cucumatz had grasped and united in his person the prerogatives of the chiefs or heads of each tribe. On the other hand, it may be that it was the original custom for the high priest to be a sort of animated calendar sign in unison with the separate chiefs of each tribe, who represented, in rotation, the totemistic ancestors of their people.

Having shown how the lords of the Four Quarters were indissolubly linked to the four major calendar-signs which also symbolized the elements, let us examine the data establishing that the capital of each of the four provinces was named a tecpan. From Duran I have already quoted that in the Mexican metropolis there [pg 183] were two tecpans or official houses in which the affairs of the government were attended to and councils held. It is significant that one of these was named "the tecpan of men" and the other "the tecpan of women." Whilst the metropolis, the seat of the dual government, thus had its two tecpans which were presided over by the two supreme rulers, we have learned from other sources of the four tecpans in Guatemala and that Texcoco, near the city

of Mexico, was also termed a tecpan and that its ruler bore as a title one of the four major calendar-signs. These facts explain his position and the reason why the "lord of Texcoco" was one of four lords who supported Montezuma when he met Cortés in full state. A careful investigation of the derivation and true significance of the word tecpan yields interesting results. Cen-tecpan-tli means, a count of twenty persons; the verb tecpana signifies, "to establish something in concerted order; to establish order amongst people." The verb tecpancapoa means, to count something in regular order.

The Maya verb tepal = to govern or reign, or to be "one who mediates," appears to be allied to the above Nahuatl words and it is not unlikely that the employment of the flint-knife or tecpatl as an emblem of office had been suggested by the fact that its Nahuatl name resembles, in sound, the above words formed with tecpan, and also the Maya verb tepal. It thus constituted a bilingual rebus, expressing the sense = to govern, to rule, to regulate, etc., and, employed as the symbol of the North and Polaris, it conveyed the idea that the latter was not only the producer of life but the regulator of the Universe.

From the fact that a tecpan constituted a minor integral whole and comprised the rule over twenty classes of people, we see that whilst the four provincial tecpans were in themselves miniature reproductions of the metropolis, they but filled the same position in relation to this as the four limbs to the body of a man or quadruped. A final proof of how completely this analogy was recognized by the native rulers is furnished by the Maya titles which embody the word kab = arm and hand.

It has already been mentioned in the preceding pages that the rulers of the four quarters were entitled Ba-cab and that in the Dresden Codex an image of the four quarters was figured by four bones. The word for bone being bac and for arm being kab, it is obvious that the arm-bone or humerus would furnish a rebus, expressing [pg 184] the

title of the four Bacabs—a conclusion which throws light upon the signification of the cross-bones of native pictography and also of the incised and decorated human arm and leg bones which have been found in Mexico and Yucatan.

At the same time the word kab also recurs in the title Ah-Cuch-Cab which signifies “the ruler or chief of a town or place,” Cuchil being the name of the latter. Both of these words so closely resemble cuxabal and cuxtal, the word for “life,” that it is not impossible that the native mind often associated the town as a centre of life, and thought of their chief as one whose symbol was a “life-dispensing hand.” In order to grasp the full significance of the symbol of the hand in Maya sculptured and written records it is necessary to bear these facts in mind.

In 1895 Mr. Teobert Maler unearthed in the centre of the public square at “El Seibal,” Guatemala, a sculptured stela exhibiting the figures of a chieftain over whose head an open hand was carved. It is impossible not to interpret this as a mark that the chieftain had once been the ruler of a town and that this, in turn, was one of four minor capitals belonging to a central metropolis. A hand, enclosed in quadrangular lines and represented on the garment of a chieftain, was found by Dr. Le Plongeon at Uxmal, and I believe that this should be interpreted in the same manner.

In my essay on Ancient Mexican Shields (Internationales Archiv für Ethnographie, band v, 1892) I reproduced two interesting instances of the employment, as the name-sign of a ruler in native pictography, of a hand on the palm of which an eye is depicted. The effigy of a hand, the sacred Kab-ul, which was kept in a place in Yucatan to which people from all quarters resorted regularly in great numbers, resolves itself into the symbol of an ancient capital to which great high-roads led from the cardinal points. But important as this capital may have been, its connection with the hand-symbol proves that it was

originally one of four minor centres and formed but a part of a greater whole. It would correspond to the image, in one of the native Codices, of a subdivided circle with an arm and hand standing in its middle, and its Bacab would undoubtedly have carried a sceptre in the shape of an open hand, such as depicted in the Codices as a staff of office.

While we thus find the human figure distinctly associated with the lords of the four quarters of the Above we find the four lords of the Below, entitled Chac, symbolized by the quadruped figure [pg 185] of the native jaguar = chacoh, associated with the color red = chac and with rain, storms, thunder and lightning, all of which phenomena were, singly and collectively, termed Chác.

If ever there has been an instance where language or the resemblance in sound of certain words has caused certain symbols to amalgamate with a name or title, it is surely this, and light is thereby thrown upon the development of symbolism and associations of thought amongst primitive people.

The Chacs of Yucatan were identical with the Tlalocs, the octli or rain lords of Mexico, whose function, as votaries of earth-cult, was the regulation of agriculture, irrigation and the collection and distribution of all products of the soil. It is interesting to trace that, in other regions of Yucatan, presumably where no chacohs or jaguars existed, the minor rulers of provinces seem to have been termed ocelots = Balam, a title found associated with Maya rulership.

With the foregoing data in mind it is easy to grasp the meaning of the talon of a beast of prey, employed as an emblem of rank or office in the native Codices or bas-reliefs and to perceive that this was the symbol of a Chac or Balam, one of the four lords of the earth or Below, just as the hand was that of the lords of the Above. The complete image of the dual State is thus shown to have consisted at one time of an ideal group consisting of a

man with a beast of prey, a jaguar or ocelot. In Mexico we have the man-bird and the man-ocelot respectively representing the rulers of the two great divisions of the State.

At Chichen-Itza and elsewhere in Yucatan sculptured figures of ocelots supporting circular vessels have been found and there are interesting instances of the combination of the human figure with ocelot = Balam attributes. One monolithic figure, discovered at Chichen-Itza by Mr. A. P. Maudslay, and belonging to the category of the recumbent statues bearing circular vase-like receptacles, already described, exhibits a human head and form, whilst the body is covered with a spotted skin. In the sculptured image of Mictlan-tecuhtli (fig. 19) a human head is accompanied by limbs of equal length-terminating in wild beasts' talons. The positions of the limbs are better understood when compared with the following illustration, to which I shall revert (fig. 51). Meanwhile, I shall merely remark that in both of these curious bas-reliefs we seem to have images of the quadruple terrestrial and celestial [pg 186] governments. Fig. 51, which is a corrected drawing of one of those contained in Leon y Gama's “Descripcion de las dos Piedras,” furnishes an interesting example, in accord with the image of Mictlantecuhtli, of the employment of the group of five as a symbol of the centre and four quarters, and exhibits four limbs associated with four heads (the quarters and their chiefs), while the hands hold two other heads, symbolical of the dual rulers of the State.

Two facts which throw an interesting light upon the growth of native symbolism are worth mentioning here. As a symbol on the head of Mictlan-tecuhtli, the lord of the North, two representations of a centipede are distinguishable. In Nahuatl the name of this is “centzonmaye,” literally, four hundred hands. It can thus be seen that the idea of one body with a multitude of hands had occurred to the native philosophers as a suitable allegory for their conception of a central celestial

and terrestrial rule which guided the activity of innumerable appointed hands and dispensed, through these, not only life and favors but also death or chastisement.

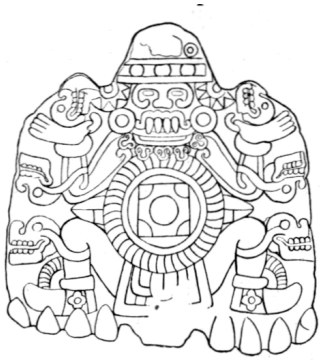


Figure 51.

Before proceeding farther we must consider tree-symbolism in ancient America. According to Molina the Inca Yupanqui (surnamed the left-handed) ordered the temple of Quisuar-cancha to be made: quisuar = a tree, the *Buddleia Incana*, cancha = place of. Salcamayhua (*op. cit.*, p. 77), who attributes the building of this temple to Manco Capac, states that these two trees, which were in the temple, "typified his father and mother ... and he ordered that they should be adorned with roots of gold and silver and with golden fruit. Hence they were called Ccurichachac Collquechachac Tampu Yracan, which means that the two trees typified his parents, that the Incas proceeded from them like fruit from the trees, and that the two trees were as the roots and stems of the Incas. All these things were executed to record their greatness." This passage is of utmost value, for it conveys to us not only that the Incas kept a record of their male and female ancestry and respectively associated the male [pg 187] and female elements with gold and silver, but also establishes the important point that the tree was employed as an emblem of the life and growth of a

lineage or race.

This fact is particularly interesting if collated with the Mexican tree-symbols. In the Féjérvary diagram (fig. 52), we find a different kind of tree and two totemic figures assigned to each quarter, which indicates that the inhabitants of each of the four provinces were regarded as of a distinct race. The top of each tree spreads itself into two branches and, with one exception, each of these bears three blossoms or leaves denoting, it would seem, the division of a tribe into $2 \times 3 = 6$ parts.

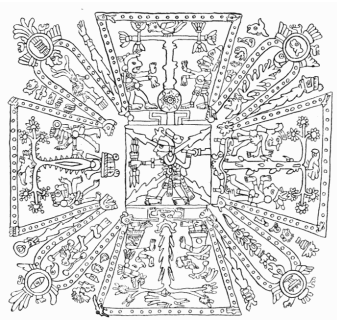


Figure 52. Copy of p. 44, Féjérvary Codex.

The majority of tree-symbols, however, exhibit a quadruplicate division as in fig. 53, nos. 1, 4 and 7. At the same time it is impossible not to recognize that each example renders in a graphic manner the organization of a tribe. In nos. 2 and 8, for instance, we find that each of the four branches was again subdivided, yielding eight subdivisions instead of four. In no. 3, we have quadruple branches, a pair of recurved spikes with buds and a [pg 188] central bud, the idea of duality repeating itself in the trunk of the tree, one-half of which above ground is white, whilst the other below ground is dark. The obvious allusion is to the Above and Below and this idea is further

symbolized by the head of the coatl = serpent or twin. In this figure there is a hint of the existence of an idea I have found expressed in other cases, namely, that a mystic line of demarcation existed at the base of a tree, which separated its upward from its downward growth. This was the seat of the life of the tree, which sent its trunk and crown heavenwards and its roots and rootlets earthwards. The fact that the juice of the agave or maguey was collected from the core of the plant seems to be at the bottom of its adoption as the sacred and ceremonial "drink of life," which was, subsequently, carefully prepared and fermented. The idea that a tree enclosed male and female elements seems to have been also a strong one and would, in course of time, doubtlessly have led to the conception of superhuman beings in human form, dwelling in trees. What is more, the adoption by each tribe of a particular sort of tree, a custom amply proven, would naturally lead to a species of tree-cult or veneration which, amongst the uninitiated, might lead to a form of worship of the tree itself.

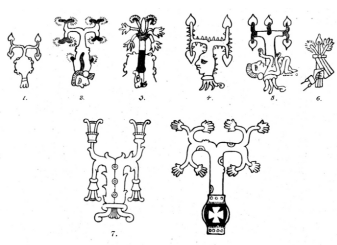


Figure 53.

[pg 189]
The ceremonial presentation of single leaves of the same kinds as those represented on the trees, as in fig. 53, no. 6, proves that underlying these picture-writings there is far more meaning than has heretofore been suspected or recognized. It is not possible for me to present here all the

material I have collected on this subject which will be set forth in a future monograph. I will, however, direct attention to the peculiar treatment in fig. 53, no. 1, of the tree trunk which is enlarged and forms a quadriform figure. In no. 4, the trunk enlarges to the shape of a head; in no. 2 the tree grows from a human head and two young shoots issue from each side of the trunk, seemingly indicating a fresh growth in tribal life. In no. 5, we have an example of a human figure lying at the base of a tree and a fifth leaf growing in the centre of the treetop. Directing attention to the evident care taken in representing an equal number of branches pointing upwards and downwards I would cite here an extremely interesting representation of a tree in the Borgian Codex. In this case the trunk issues from a conventionally drawn heart, figured in the centre of the symbol for sky or heaven. As the Nahuatl for heart is yul-lotl, from the verb yuli = to live, to resuscitate, the idea is distinctly conveyed that the tree was that of life = yuli and proceeded from the celestial centre of life, Polaris or the Heart of Heaven, a native title for the Supreme Being.[47]

In the Telleriano-Remensis MS., a "tree of Paradise," so termed in the text, is figured, and there are, in other Codices, various examples of trees encircled with serpents, where it is obvious that this combination was made in order to express, phonetically, that a celestial tree was intended, the word kan = serpent, being made to express kaan = heaven. A celestial tree, situated at the pole and bearing in some cases seven and in others five blossoms, was frequently depicted and its symbolism is obvious. In my commentary on the Hispano-Mexican MS. "The Lyfe of the Indians," the "Gods," "Five Flowers," and "Seven Flowers," will be treated in detail.

From Sahagun and Olmos we learn that the Mexicans employed the image of a tree, metaphorically, to signify a lord, governor, progenitor, first ancestor. Relations are designated as "issuing from one trunk." A branch is literally termed "the arm of the [pg 190] tree," kab-ché.

Two kinds of trees, the Puchutl and Aueuetl, signified, metaphorically, “a father, mother, lord, captain or governor who were, or are, like shade-giving, sheltering trees” (Olmos).

The above metaphors explain the frequent association of a head, the symbol of a chief or lord, with the tree symbols. It is noteworthy that in Nahuatl, the name for head = quaitl, is singularly like quauitl = tree, and also recalls the word for serpent = coatl, facts which may have somewhat guided the choice and association of these symbols. The native metaphors recorded by Olmos, moquauhtia = an honored person or lord who has vassals or dependents, and atlapalli = literally, leaf = a person of the lower class, a worker, initiate us still further into the meaning of the native symbolism and prove the antiquity of this, since the designation of a chief as a tree and a vassal as a leaf was in current use. The presentation of the tree issuing from a heart = yul-lotl is moreover, in perfect keeping with native thought, since the chieftain or lord was entitled “the heart, or life of the town or population.”

The meaning of the bird, which is represented as perched on each of the four trees in the Féjérvary diagram, is likewise explained by the metaphors recorded by Olmos who states that, “a son or child or a much beloved lord or chieftain was compared to a beautiful and precious bird, such as the Quetzal, the Roseate Spoonbill, the Blue-bird, etc., etc.” Surmounting the tribal trees in the diagram, the birds therefore typify the lords of the four provinces and this is corroborated by the fact that each different bird is figured again in the corner-loops in combination with the symbols of the cardinal points. The association of the symbols for lord or chief = the head, and the precious bird with the tribal tree also explains the frequent representation, in the native Codices, of one or two serpents entwined around the tree, since the serpent was the symbol in Mexico of the dual rulers or high-priests of the Above and Below. There is ample proof, which shall be presented in full in my monograph on this subject, that

the above metaphorical images were as intelligible to the Mayas and other tribes, as to the Mexicans themselves, for the identical metaphors and imagery were in widespread general use. The following data will corroborate this statement.

A Maya native drawing, copied by Cogolludo in 1640 from the MS. of the Chilan Balam or Sacred Book of Man, which relates the [pg 191] history of the Mayas, has been recently reproduced in Dr. Daniel G. Brinton's Primer of Maya Hieroglyphics, p. 47. It displays a rectangular stone slab like a table, on the centre of which rests a circular bowl, the symbol, as I have shown, of the earth and centre. Growing from this is a spreading tree.

It is a curious and undeniable fact that the Maya name for table is mayac, and that the dictionaries contain the words mayac-tun, stone-table, and mayac-ché, wooden, literally, tree-table. Familiarity with the native modes of rebus-writing leads to the inference that this picture of a tree and table, expressing the sounds mayac-ché, actually signified the tree of the Mayas and therefore figured in the book relating their history. Bishop Landa records that the Mayas believed in a beautiful celestial tree, resembling the ceiba and named yax-ché, literally, green tree, under whose shade they would repose in after-life. Abbé Brasseur de Bourbourg surmises that this tree was the same as the beautiful shade tree which grows in Yucatan and Mexico and is named, in the latter country, tonacaz-quahuital = tree of our subsistence, *i. e.*, life.

A Maya name for the "tree of life," ua-hom-ché, next claims our attention.[48] A valuable old manuscript dictionary of the Maya language, quoted by Dr. Brinton, records that the word uah means "a certain kind of life." The word *hom* is an ancient term for an artificial elevation, mound or pyramid, hence *homul*, the pyramid on which a temple was built. Combined with ché, tree, the word seems to signify "the elevated or high tree of life," the idea of the celestial tree "on high," being

possibly intended. In connection with this it is interesting to reëxamine fig. 20, IV, which represents a flat pyramid from which grows a four-petalled flower on a stalk with two leaves, the symbolism of which is apparent.

I am inclined to connect another native name translated in the dictionaries by "cross" = zin-ché with zihil = to be born, to commence, zihnal = original, primitive, and zian = origin, generation, ancestry, and to interpret it "the tree of ancestral or tribal life." On the other hand, there is the adjective zinil = mighty, great, and the meaning of zin-ché may merely mean "the mighty tree." In treating of the "cross tablet" of Palenque in the following [pg 192] pages, reference will be made to Dr. Brinton's identification of the "cross" as a tree and tree symbolism referred to again. Although unable to produce here all the data I have collected on the subject, I think that the foregoing prove that the Peruvians, Mexicans and Mayas, employed the four-branched tree as an image of the organization and growth of their communal life, and utilized it in pictography as a means of recording changes of organization and statistics of increase or decrease of population. The Maya word for "one generation of men," uinay, literally meaning "one growth," seems to reveal that each generation was popularly thought of as one growth of leaves on the tree of state—a simile which is worthy of note.

One more point remains to be considered in reference to the organization of the population into four parts, each of which consisted of four minor parts and so on; namely, the employment of color as a means of differentiation.

In Peru each person wore on the head a twisted cord, of the color of its quarter, whilst the Inca alone wore these colors combined, in the band which encircled his brow, as a sign that, in his person he united the rulership over the four provinces. Molina records the colors of these as red, yellow, white and black. In the titles of the Maya Bacabs, or lords of the provinces, as given by Landa, the words for

yellow, red, white and black, are found to be incorporated and prove to be identical with the arrangement in Peru. In Mexico, on the other hand, we find red, yellow, green and blue as the colors of the Four Quarters, white and black being assigned to the Above and Below. All colors combined are to be found united in symbols of the Centre and it is known that the use of centzon-tilmatli and quachtli = mantles of four hundred colors = multicolored were supplied as tributes to the capital, for the use of a privileged caste. A somewhat similar arrangement to the Mexican is that of the Zuñis at the present time. According to Mr. Cushing, they assign yellow, blue, red and white to the cardinal points, speckled and black to the Above = zenith and Below = nadir, and "all colours to the Middle or Centre."

In Peru, Mexico and Yucatan I have found scattered notices proving that individuals habitually painted their bodies with their respective colors. The Mexican "lords of the night" smeared themselves with black. A passage in Sahagun (book I, chap. V) speaks of the whitening of the "face, arms, hands and legs with [pg 193] 'tiçatl'" = chalk, as though this were a habit of the "noblewomen." In the Codices some women are, in fact, represented with white faces, whilst those of the majority are painted yellow and it is known that yellow ochre was employed in reality. I have, in preparation, a brief, illustrated monograph showing the various modes of painting the face represented in the native pictorial records. In these, men painted red are of frequent occurrence, and it is known that the "red man" owed his appellation to the custom of using red pigment on his body.

Let us now briefly consider some of the results which inevitably followed the establishment of two diverging cults which were the outcome of the primitive recognition of duality and the artificial association of sex with Heaven and Earth, Day and Night, etc. On pp. 60-62 I have cited evidence showing that at one time in the past history of

the Aztecs, serious differences arose between the male and female rulers, and led to a separation of the tribe and the establishment of two distinct centres of government.

The native languages furnish strong indications that, in ordinary tribal life, the separation of the sexes must have been generally enforced from remote antiquity and that male and female communities existed in various portions of the continent. It is well known that, to this day, the Nahuatl tongue spoken by the men is different from that spoken by the women, and that the same duality of language prevails among other American tribes. When the male and female portions of the native states separated and founded separate capitals it is obvious that each would have still further cultivated a separate language and that the institution of two distinct cults would have accentuated their differences and given a fresh impetus to their development. As will be shown, the Maya chronicles reveal that, in Yucatan, the nocturnal cult of the female principle degenerated into such abominations that the incensed population actually rose in revolt, murdered the high-priests and scattered their votaries.

It was obviously owing to a recognition of the degradation attendant upon the abuse of intoxicating drinks, which had played such a rôle in the cult of the earth-mother, that such stern laws were enforced in Mexico, at the time of the Conquest, restricting and regulating the use of pulque. This was distributed by the priests at certain festivals only. These and other rigid measures [pg 194] evidently dictated by a spirit of reform, as well as the close union of both cults, seem to have efficiently maintained a certain equilibrium. At the same time two different moral standards were thus inevitably evolved by the votaries of both cults and naturally profoundly affected the position of woman. The dangers and evils attendant upon the earth-cult became irretrievably associated with the female sex and the votaries of Heaven naturally came to regard woman as a source of temptation and degradation. In ancient Mexico

and Peru the celibacy of the sun-priests and of a certain number of noblewomen, “the Virgins of the Sun,” was enforced; thus, whilst the position of woman was being lowered in one caste by an artificial set of ideas, it was raised in the other by an equally fictitious association with the Above, which led, however, to her real elevation of mind and character and finally enforced a recognition of her individuality. The consecration of her person, which caused her to assume a position commanding universal homage, relieved her from heavy labor but caused her to be guarded and protected. She was thus condemned to a still greater seclusion, the primary object of which was to remove her from possible contact with members of the lower earthly caste. For, whilst ceremonial usage even required that the male members of the upper caste should associate in certain symbolical rites with the chief women of the lower order, it was a crime and a desecration for a man of the latter caste to approach a woman of the nobility. These could only marry in their own caste or remain celibate and were kept aloof from all debasing influences, inside of protecting walls.

Reflection shows that such conditions would inevitably lead to the formation of a nobility whose ideal was celibacy and whose “Virgins of the Sun,” by virtue of their consecration, ranked highest amongst the women of the “celestial caste.” Those who married did so in their own caste, led a life of seclusion and always maintained a position of superiority over all women of the “earthly caste.” The latter, on the other hand, had the prerogative of being the representatives of their caste, since the cult of the earth-mother necessitated a female representative, high-priestesses and also female chiefs in their own rights. We know that, in ancient Mexico, an independent gynocracy had been founded at one time. From certain native manuscripts and monuments we have positive evidence that a number of independent female chieftains ruled over minor communities and represented them officially, [pg 195] their rank and insignia being equal to

that of the chiefs of male communities. At the same time, from the standpoint of the "upper caste," the position and moral code of these "votaries of the earth," were always viewed as inferior.

Another factor also exerted a marked and growing influence upon the relative positions of the two classes of women. The enforced seclusion of the noblewomen rendering out-door occupations or work impossible, it became necessary to relegate such to members of the lower caste who gradually constituted a class of domestic slaves, dedicated to the service of the nobility. In ancient Mexico, as a punishment for various crimes, such as murder, theft, etc., an individual, even of the upper class, was reduced to slavery as a punishment for his crime. The ranks of slaves were also recruited from prisoners of war. On the other hand, the laws regulating slavery were just and mild, the children of slaves were born free and various modes of regaining freedom were afforded to those held in bondage as an expiation for crime. The introduction of slaves necessitating, as it did, their classification with the lower class, now associated servitude with the female division of the community, and the idea arose that women and the lower class existed for the benefit of the male element of the state and a favored minority of consecrated women.

If slavery and bondage came to be regarded on the one hand as a just punishment for crime, the idea of liberty shone as an incentive to good conduct. An eloquent proof of the high estimate in which personal freedom was regarded by the ancient Mexicans, is furnished by the Nahuatl word, recorded by Olmos, for "free man" = xoxouhqui-yollotl, literally, "fresh or green heart." This expression is of particular interest because it explains a strange mortuary custom which consisted in placing a piece of jade, chal-chihuitl, or precious green stone, in the mouth of a noble person, after death, saying that it was "his heart." In the case of the lower class a stone of little value, named texaxoctli, was employed. In ancient

Mexico, therefore, the presence of jade or any green stone, in a grave, proved that the body was that of a free member of the upper caste. It is evident that the employment of this significant emblem was suggested by the Nahuatl word for "freeman," and constituted a sort of rebus expressing this title or rank.

In the Peabody Museum there are several specimens of jade celts, collected by Dr. Earl Flint in Nicaragua, which had been cut into two [pg 196] or more pieces. Professor Putnam had the satisfaction of discovering that these pieces from different graves fitted together. His inference that the stone must have been rare and highly prized, probably from some motive connected with native ritual, is fully supported by the explanation afforded by the existence of the Nahuatl word. It is evident that, in order to provide a dead kinsman with the mark of his rank, a living chief would gladly have divided his own celt of jade, if, for some reason or other, no other green stone was forthcoming at the time of burial.

Let us now rapidly enumerate a few facts which prove that not only burial customs but also social organization and numerical divisions were carried northward from the southern cradle of ancient American civilization. I shall make two statements only, hoping that competent authorities on North American tribal organization, and amongst them, my esteemed friend and colleague, Miss Alice C. Fletcher, will supply a number of authoritative reports on these matters.

Referring to the writings of Horatio Hale, whose comparatively recent loss will long be deeply felt by all students of aboriginal history and languages, I quote the following sentences from his interesting pamphlet on "Four Huron Wampum records," published, with notes and addenda by Prof. E. B. Tylor of Oxford, in 1897.

"The surviving members of the Huron nation, even in its present broken, dispersed and half extinct condition, still retain the memory of their ancient claim to the headship

of all the aboriginal tribes of America north of Mexico.... The Hurons or Wendat, as they should be properly styled, belonged to the important group or linguistic stock, commonly known, from its principal branch, as the Iroquoian family and which includes, besides the Huron and Iroquois nations, the Attiwendaronks, the Eries, Andastes, Tuscaroras and Cherokees, all once independent and powerful nations." (I draw attention to the detail that these nations were seven in number.) Gallatin, in his "Synopsis of the Indian tribes," notices the remarkable fact that while the "Five Nations" or Iroquois proper were found by Champlain, on his arrival in Canada, to be engaged in deadly warfare with all the Algonquian tribes within their reach, the Hurons, another Iroquoian nation, were the head and principal support of the Algonquian confederacy. In the "Fall of Hochelaga," Horatio Hale sets forth [pg 197] the reasons which led to the division of the Hurons and Iroquois, who had formerly dwelt together in friendly unison. The latter, retreating to the south and augmented by other refugees, became the "Five Confederate Nations."

The "kingdom of Hochelaga," as Cartier styles it, comprised, besides the fortified city of that name, the important town of Stadaconé (commonly known to its people as Canada or "the town") and eight or nine other towns along the great river. According to their tradition the name of their leader, Sut-staw-ra-tse, had been kept up by descent for seven or eight hundred years.

"Towards the conclusion of a long and deadly warfare between the Iroquois confederates and Canada as well as the Hurons a remarkable change had taken place in their character; a change which recalls that which is believed to have been developed in the character of the Spartans under the institutions of Lycurgus, and the similar change which is known to have appeared in the character of the Arabians under the influence of Mohammedan precepts. A great reformer had arisen in the person of the Onondaga chief, Hiawatha, who, imbued with an overmastering

idea, had inspired his people with a spirit of self-sacrifice, which stopped at no obstacle in the determination of carrying into effect their teacher's sublime purpose. This purpose was the establishment of universal peace.... The Tionontaté or Tobacco Nation seem to have made an alliance with the Huron nation....

"Eight clans or gentes composed the Huron people and were found in different proportions in all the tribes. These clans, called by the Algonquians 'totems,' all bore the names of certain animals, with which the Indians held themselves to be mythologically connected—the bear, wolf, deer, porcupine, snake, hawk, large tortoise and small tortoise. Each clan was more numerous in some towns than in others, as it was natural that near kindreds should cluster together.

"The five Iroquois nations also had eight clans.... The Iroquois league is spoken of in their Book of Rites as kanasta-tsi-koma, 'the great framework' and the large, bent frame-poles of their council-house, the exact original shape of which is not known, were named kan-asta."

An examination of the signs woven in the famous wampum belts of the Hurons and Iroquois reveals some curious facts.

[pg 198]
One of these treaty belts, described by Horatio Hale, commemorates an alliance formed between four nations. It exhibits four squares (fig. 54, *a*) "which indicate, in the Indian hieroglyphic system, either towns or tribes with their territory."[49] This mode of representing a nation is of utmost interest, not only because it coincides with the Maya conception of "the quadrated" earth but because it also reveals that, in North America, the Indians associated a tribal organization with a quadriform. What is more, an older belt, which is unfortunately incomplete, exhibits a central oval (fig. 54, *b*) between a bird and a quadruped and three crosses with a circle uniting their branches. The cross and circle, being a native symbol for "an integral

state," as definitely proven by the Maya map, justifies the suggestion that this symbol on the wampum belt may have had the significance of "nation" and central government. It is remarkable that the Iroquois central capital, Ho-che-laga, can be analyzed in the Maya tongue, as meaning five = *ho*, tree = *ché* or *hoch* = vase (symbol of centre) whilst the terminal *laga* might possibly be a form of *lacan* = banner, an object so frequently associated with names of towns in Mexico, where it yields the sound pan and means on or above something.

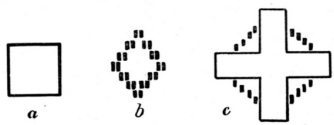


Figure 54.

It will be interesting and important to learn what "Hochelaga" means in the Iroquois language. The resemblance between the Maya and Iroquois symbols for nation and tribal territory and of the names for capital might even be overlooked and treated as a coincidence merely, if the Iroquois name for the confederacy, kan-asta-tsik-o-ma did not also begin with the word kan, the Maya for four and for serpent. The same particle recurs in the Iroquois name for the town = can-ada, a word which, in Maya, would describe a metropolis divided into four quarters.

The question naturally suggests itself whether the affix can, frequently met with in Mexico combined with names of localities, was not of Maya origin and expressed also a centre of quadruple [pg 199] government. It occurs in the Nahuatl name for metropolis to-tec-ua can and in Teotihua can, for instance. The Nahuatl scholars have rendered its meaning as "place of."

Mr. Hale tells us that, amongst the "Five Nations," the tradition exists that the confederacy was originally divided into "seven tribes," each of which was composed of $2 \times 4 = 8$ gentes or clans. Another wampum belt he figures exhibits a heart between $2 \times 2 = 4$ squares, a symbol which would be interpreted by a Mexican or Maya as well as by a Huron or Iroquois, as meaning "four nations, one heart," the latter being as common a symbol for union of rule or government or for chieftain, as a "head."

Combined with other testimony it seems impossible to evade the question whether in remote times the Iroquois and Hurons had not shared in some way or other the civilization of the Mayas. If so the ancient earthwork-builders of the Ohio valley, who are authoritatively regarded as of southern origin by Professor Putnam, and whose art exhibits a strong resemblance to that of the Mayas, seem to constitute the missing link between the northeastern and the southeastern tribes. It is curious to find that the terminal ché, which occurs in the name Quiché and which signifies in Maya, tree, and, by extension, tribe, is preserved in the names of the Nat-ché-z tribe still inhabiting the Mississippi valley. It is also present in Coman-ché, Apa-che, etc.

It is to be hoped that, before long, authorities who have made special studies of the above tribes will make searching comparisons of their languages, social organization and symbolism with that of the Mayas, in particular, it seeming evident that the coast communication along the gulf of Mexico, from Yucatan to the mouth of the Mississippi river, was not only easy but was favored by sea-currents.

It is interesting to note that if we now proceed to the southwest of the United States and study the Pueblo people, we seem to find not only more distinctly marked affinities between their customs, etc., and those of the Mexicans, but also traces of similarity with certain Maya

symbols.

In several important publications Dr. J. Walter Fewkes has made the valuable observation that there are marked "resemblances between a ceremony practised [at the time of the Conquest] in the heart of Mexico and one still kept up in Arizona," and [pg 200] states that these "lead one to look for likenesses in symbolism, especially that pertaining to the mythological Snake among the two peoples." He continues as follows: "From the speculative side it seems probable that there is an intimate resemblance between some of the ceremonials, the symbolism and mythological systems of the Indians of Tusayan and those of the more cultured stocks of Central America.... The facts here recorded look as if the Hopi practise a ceremonial form of worship with strong affinities to the Nahuatl and Maya.... I have not yet seen enough evidence to convince me that the Hopi derived their cult and ceremonials from the Zuñians or from any other single people. It is probably composite. I am not sure that portions of it were not brought up from the far south, perhaps from the Salado and Gila by the Bat-kin-ya-mûh = 'Water people,' whose legendary history is quite strong that they came from the south."[50]

Dr. Fewkes frankly states that he "knows next to nothing of the symbolic characters of the Mexican deities ..." and quotes Mr. Bandelier's opinion that "there are traces or tracks of the same mythological system and symbolism amongst the Indians of the southwestern United States and the aborigines of Central America."

Under the leadership of Mr. Frank H. Cushing let us now enter into the life and thoughts of the modern Zuñis. After having traced certain ideas in Mexico and Peru, it is possible to recognize them again when we find them in Mr. Cushing's valuable work, from which I shall quote somewhat at length, referring the reader, however, to the original, for a fuller realization of existing resemblances.[51]

The Zuñi creation-myth relates how the light of the Sun-

father and a foam-cap on the sea, caused the Earth-mother to give birth to twin-brothers, Uanam Achi Piah-*koa*, "the Beloved Twain who descended." The first was Uanam Ehkona = the beloved Preceder, the second Uanam Yaluna, the beloved Follower; they were twin-brothers of light, yet elder and younger, the right and left, like to question and answer in deciding and doing.... The [pg 201] Sun-father gave them the thunderbolts of the four quarters, two apiece.... On their cloud-shield, even as a spider in her web descendeth, they descended into the underworld ... (p. 381).

Pausing here for a moment, we note the curious fact that in the Zuñi name for the twins we find *koa*, resembling the Nahuatl coatl = twin or serpent; that the name of one brother Ehk-ona recalls the Mexican ec-atl = air, wind or breath, and the Maya ik = air, wind, breath, courage, spirit. The allotment of two quarters to each and the image of a spider employed to express their descent from heaven have counterparts in Nahuatl lore.

The "Twain" ... guided men upwards to become the fathers of six kinds of men (yellow or tawny, grey, red, white, mingled and black).... The nation divided itself into the winter or Macaw and the summer or Raven people.... "The Twain beloved gathered in council for the naming and selection of man groups and creature kinds, spaces and things. They determined that the creatures and things of summer and the southern space pertained to the southern people or children of the producing Earth-mother; and those of the winter and northern space to the winter people or children of the Forcing or Quickening Sky-father."

It is impossible to do more than refer the reader to Mr. Cushing's account of the origin of totem clans and creature-kinds which bears such an affinity to the Peruvian, and obviously arose for the same practical reason, to serve as distinction marks for identification and classification. "At first ... there were four bands of priest-

keepers of the mysteries: the Shiwana-kwe = priesthood of the priest-people; Sa'niah'-ya-kwe = priesthood of the Hunt; Ach-iahya-kwe = great Knife people; Newe-kwe = keepers of the magic medicines." Out of these four divisions "all societies were formed, both that of the Middle and the twain for each of all six regions, constituting the tabooed and sacred 13." In another passage account is given of the marriage of a brother and sister, which produced twelve children, the first of which, Hlamon, was man and woman combined—the 12 thus constituting in reality 13.

One of the most interesting portions of the Zuñi narrative is one which elucidates the motive which led to the migration of peoples in ancient America. We are told how generations of the forefathers of the Zuñis wandered about in search of the stable middle [pg 202] of the earth, on which they wished to found their sacred city. The tribe divided; the winter-clan journeyed to the northeast and the summer-clan to the southwest, a reunion of the people took place, and a council was held for the determination of the true Middle.... According to a myth the Sun-father requested the water-skate to determine the Middle. This mythical monster lifted himself up, stretched out and then settled downward, calling out: "Where my heart and navel rest beneath them mark ye the spot and then build ye a town of the midmost, for there shall be the midmost of the Earth-mother, even the navel.... And when he descended squatting, his belly rested over the plain and valley of Zuñi and when he drew in his finger-legs, lo! there were the trail roads leading out and in like the stays of a spider's net, into and forth from the place he had covered."

Pausing to point out that fig. 28, reproduced from Mexican Codices, shows curious topographical drawings resembling a spider's net, I will not recount the many disappointments of the wanderers, who were evidently driven away from several places of settlement by earthquakes, but will refer to the Zuñi custom of

“annually testing the stability of the Middle in middle time ... when the sun reached the middle between winter and summer ... a shell was laid by the sacred fire of the north.... When during solemn chanting no trembling of the earth ensued, the priests cast new fire and ... dwelt happily feeling sure that their sacred things were resting in the stable middle of the world.”

At the beginning of this paper I referred to the powerful hold that the realization of the fixity of the pole star would naturally have exerted upon the mind of primitive man, and I can produce no more striking illustration of this and of my view that the idea of central government and organization had been suggested by Polaris, than this account of the earnest and prolonged search of these ancient people for the stable centre of the earth, on which to found a permanent centre of terrestrial rule or the plan of the celestial government. At the same time it seems to me that the longing for a stable and fixed residence would naturally have been most intense amongst people who had experienced terrible earthquakes and been driven out of their original abodes by their repeated destruction. It is unnecessary to mention the well-known fact that whilst earthquakes prevail throughout North and Central America, the most impressive trace of catastrophes of the kind [pg 203] are connected with the gigantic volcanoes of Central Mexico and Guatemala.

With a sympathetic insight into the disasters which seem to have driven the wandering tribes from one region to another and filled them with a passionate yearning for a centre of rest, let us now learn from Mr. Cushing how they planned their metropolis and organized themselves, when they had found the long-looked-for goal, in the Zuñi valley and “settling there, built seven great cities therein.

“All their subtribes and lesser tribes were distinctively related to and ruled from a central tribe and town through priest chiefs representatives of each of these, sitting under supreme council or septuarchy of the

‘Master priests of the house’ in the central town itself, much as were the divisions and cities of the great Inca dominion in South America represented at and ruled from Cuzco, the central city and power of them all.

“Zuñi is divided, not always clearly to the eye, but very clearly in the estimation of the people themselves, into seven parts, corresponding not perhaps in arrangement topographically, but in scheme to their subdivisions of the worlds or world-quarters of this world. Thus one division of the town is supposed to be related to the north and to be centred in its kiva or estufa which may or may not be at its centre; another division represents the west, another the south, another the east; yet another the upper world and another the lower world; while a final division represents the middle or mother and synthetic combination of the all in the world.

“By reference to the early Spanish history of the pueblos, it may be seen that when discovered the Ashiwis or Zuñis were living in seven quite widely separated towns the celebrated seven cities of Cibola and that this theoretic subdivision of the only one of these towns now remaining is in some manner a survival of the original subdivision of the tribes into seven into as many towns. It is evident that in both cases, however, the arrangement was and is, if we may call it such, a mythic organization; hence my use of the term of mytho-sociologic organization of the tribe. At all events this is the key to their sociology as well as to their mythic conception of space and universe.

“... There were nineteen clans, grouped in threes, to correspond to the mythic subdivision. Three to north, west, south, [pg 204] east, Upper, Lower. The *single* clan of Macaw is midmost or of middle and also as the all containing and mother clan of the entire tribe, for in it is ‘the seed of the priesthood of houses’ supposed to be preserved.[52]

“Finally, as produced from all the clans and as representative alike of all the clans and through a tribal

septuarchy of all the regions and divisions of the midmost and, finally, as representative of all the cult societies above mentioned, is the Kaka or A'kâkâ-kwe or Mythic Dance drama people or organization.

“It may be seen of these mytho-sociologic organizations that they are a system within a system and that it contains systems within systems all founded on the classification according to the six-fold division of things and in turn the six-fold division of each of these divisions of things ... The tribal division made up of the clans of the north take precedence ceremonially, occupying the position of elder brother or the oldest ancestor. The west is the younger brother to this and the south of the west, the east of south, etc.... while the middle is supposed to be a representative being, the heart and name of all of the brothers of the regions, the first and last, as well as elder and younger.

“To such an extent indeed, is this tendency to classify according to the number of the six regions with its seventh synthesis of them all (the latter sometimes apparent, sometimes non-appearing) that not only are the subdivisions of the societies also again subdivided according to this arrangement, but each clan is subdivided, both according to the six-fold arrangement and according to the subsidiary relations of the six parts of its totem....

“In each clan is to be found a set of names, called the names of childhood. These names are more of titles than of cognomens. They are determined upon by sociological divinistic modes and are bestowed in childhood as the ‘verity names’ or titles of the children to whom given. But the body of names relating to any one totem, for instance, to one of the beast totems, will not be the name of the totem-beast itself but will be the names of both of the totems and its various conditions and of the various parts of the totem or of its functions, or of its attributes, actual or mythical.

[pg 205]
“Now these parts or functions, or attributes of the parts or functions, are subdivided also in a six-fold manner, so that the name relating to one member of the totem, for example, like the right leg or arm of the animal thereof, would correspond to the north and would be the first in honor in a clan (not itself of the northern group); then the name relating to another member, say the left leg and its powers, etc., would pertain to the west and would be second in honor, ... the right foot, pertaining to the south, would be third in honor, ... the tail to the lower regions and be sixth in honor; while the heart and navel and centre of the being would be first as well as last in honor.... In addressing each other the word symbol for elder or younger is always used.

“With such a system of arrangement as all this maybe seen to be, with such a facile device for symbolizing the arrangement (not only according to the number of regions, and their subdivisions in their relative succession and the succession of their elements and seasons, but also in the colors attributed to them) and, finally, with such an arrangement of names, correspondingly classified and of terms of relation significant of rank rather than of consanguineal connection, mistake in the order of a ceremonial, a procession or a council is simply impossible and the people employing these devices may be said to have written and to be writing their statutes and laws in all their daily relationship and utterances.”

If this precious exposition of the Zuñi social organization teaches us more about native method and system than all of the writings of the Spanish chroniclers put together, there is one important point which, strangely enough, is not touched upon, namely, the regulation of time. All information concerning native astronomy, and the subdivision of the years, the festival periods and the names of days, seems to have been withheld from Mr. Cushing by the Zuñi priesthood, if we are to assume that they possess a calendar.

In Mexico, as I have already set forth, the calendar system is bound up in the scheme of social organization and it is impossible to separate them. I cannot but think that it must be the same with the Zuñis but that, as in ancient Mexico, only the priesthood were acquainted with the existence of a systematic calendar, and kept it a profound secret from the multitude, although the entire communal life and activities of the people were guided accordingly [pg 206] by their rulers, who had arranged a suitable time for all things, at proper seasons.

Having obtained through Mr. Cushing invaluable material for the making of a composite image of the ancient American civilization let us now proceed to Yucatan, bearing in mind the native mode of thought and master-passion for systematization.

A careful perusal of Cogolludo and Landa's work affords such interesting glimpses into the past history of the inhabitants of the Yucatan peninsula, that they merit presentation in a separate publication. Suffice it for the present to refer more fully to a few leading facts which will be found to illustrate the development of the ancient civilization in the preceding pages.

The native opinion already cited was that a great chief or lord, named Kukulcan, reigned at Chichen-Itza, Yucatan, whilst this was occupied by the Itza tribe, which was driven from it in about 270 A.D. by the Tutul-xius who were entitled “holy men.” Their name justifies Brasseur de Bourbourg's inference that the conquerors may have been a Nahuatl tribe whose name was that of the much-prized blue-bird, Xiuh-tototl.

At the same time the fact that the Maya word for supreme lord and Master (also applied to the divinity) is *Ciu-mil* seems to indicate that there may be a deeper origin and that the Xiuh-tototl may have only been a rebus employed by the Mexicans to convey the sound of a Maya title, possibly “Kukul-Ciu,” if the above title “holy men” is to be regarded as a translation of Tutul-xiu.

“Kukulcan had no wife or children and was venerated in Yucatan as a god because he was a great republican, as was shown by the order he instituted in Yucatan after the death of the native rulers. He went to Mexico whence he returned. He was there named Quetzalcoatl and was venerated by the Mexicans as one of their gods.” When he had entered into treaty with the native chiefs inhabiting the country, they agreed to join him in founding and peopling a city which was named Mayapan, but was also known by the natives as Ichpa, meaning “inside of the circles.”[53] “They proceeded, indeed, to build a circular walled enclosure with two entrances [pg 207] only. In its centre, the principal temple was erected and it was circular, with four doors opening to the cardinal points, like one which had been built by Kukulcan at Chichen-Itza. The walled circle also contained other sacred edifices and houses intended to be inhabited by the lords only, who divided up the entire land amongst themselves. Towns were assigned to each according to the antiquity of his lineage and personal distinction. Kukulcan lived in this town for some years with these lords and leaving them in amity and peace returned to Mexico by the same way as on his visit, lingering on the way in order to build a quadriform temple on an island off the coast.”

I know of no more instructive account of aboriginal history than this simple native record preserved by Landa, which so clearly reveals amongst other details that the Mexican culture-hero was an actual personage, a Maya high-priest who had been a ruler at Chichen-Itza. In this connection it is interesting to collate another chapter of Landa's work in which he reports what the oldest Indians narrated to him about Chichen-Itza, of which I give the following somewhat abbreviated translation: Three brothers came there in olden times from the west and having assembled together a large number of people, ruled them for some years with much justice and peace.[54] They paid great honor to their god and built many beautiful edifices.... They lived without wives in purity and virtue and as long as they did this they were

esteemed and obeyed by all. In course of time one of them possibly died, but is said by the Indians to have gone out of the country. Whatever may have been the cause of his absence the remaining rulers immediately began to show partiality and to institute such licentious and abominable customs that they were finally execrated by the people who rebelled and killed them, and then disbanded and abandoned the capital, "although this was most beautiful and was surrounded by fertile provinces."[55]

The principal edifice at Chichen-Itza was a pyramid temple which [pg 208] had four stairways facing the cardinal points. It contained a circular temple which was named after the builder Kukulcan and had four doorways opening to the four quarters of heaven.

If I have dwelt again upon Kukulcan = Quetzalcoatl, it is because, between the writers who interpret the records concerning him as a sun or star-myth and those who identify him as the abstract deity whose name he bore as a title only, or as St. Thomas or a mythical Norseman, ancient America is being deprived of its most remarkable historical personage.

Collated with the Maya traditional records, the Mexican accounts agree and supply missing evidence. Whilst the Mayas state that their ruler and legislator went to Mexico and even record his Mexican name, Montezuma informs Cortés that "his ancestors had been conducted to Mexico by a ruler, Quetzalcoatl, whose vassals they were and who having established them in a colony returned to his native land. Later on he returned and wished them to leave with him but they chose to remain, having married women of the country, raised families and built towns. Nor would they institute him again as their lord, so he went away again toward the east, whence he had come." It seems nearly proven that Kukulcan was one of the three rulers who came to Yucatan from the east. The Mexican tradition that he was driven into exile by his enemies, the

followers of Tezcatlipoca, the lord of the Below, appears to be corroborated by the Maya record that, after his restraining presence had been removed, they committed such excesses that the indignant population arose and murdered their two rulers at Chichen-Itza. Quetzalcoatl's continued efforts to assemble scattered tribes, to organize them peacefully under central governments, to found capitals and erect in the centre of these quadriform pyramids and circular temples, prove how completely he was possessed by the idea of spreading the well-known scheme of civilization. His very name in Maya signified "the divine Four" and this more profound signification was hidden under the image of the "feathered serpent" employed as a rebus to express the title of the supreme Being and the high-priest, his earthly representative.

[pg 209]
The Mexican records state that the culture-hero's white robes were covered with red crosses, and that he set up cross-emblems. Evidence showing how completely this builder and founder of cities carried out the idea of the Four Quarters, in the temples he erected in Mexico, is preserved by the record that for prayer, penitence and fasting, he prepared four rooms which he occupied in rotation. These were respectively decorated in blue, green, red and yellow, by means of precious stones, feather-work and gold. As these were the colors assigned to the Four Quarters their symbolism and meaning are obvious, and it may be inferred that the same method of decorating the sides of buildings or doorways, with these four colors, may have been carried out in square sacred edifices oriented to the cardinal points.

It is curious to detect the quadruplicate idea in the title Holcan given to certain war-chiefs. This name signifies, literally, "the head of four," but could be expressed by the rebus of a "serpent's head," which would obviously have been employed in pictography to express the title and rank. The existence of the title "Four-head," or "the head of four," obviously relates to the rulership of the Four

Quarters, united in one person; and in this connection the Tiahuanaco swastika (fig. 48), terminating in four pumas' heads, seems to gain in significance as the expressive symbol of a central ruler. The recorded custom to cover the body of the Mexican ruler with the raiment of the "four principal gods," proves the prevalence of analogous symbolism.

From the following data we gain an interesting view of the events which transpired in former times in the Yucatan peninsula. Resuming Landa's account we see that, after Kuculcan had departed for Mexico, the lords of Mayapan decided to confer supreme rulership upon the Cocomes, this being the most ancient and the wealthiest lineage and its chief being distinguished for bravery. They then decided that the inner circle should hold only the temples and houses for the lords and high-priest. In connection with this it is well to insert here how Landa states, in another passage, that there were "twelve priests or lords at Mayapan," which with the high-priest constituted the sacred 13. "Outside the wall they built houses where each lord kept some servitors and where his people or vassals could resort when they came on business to the town. Each of these houses had its steward, entitled Caluac, who bore a staff of office and he kept an account with the towns and with [pg 210] their local rulers. The Caluac always went to his lord's house, saw what he required and obtained from the vassals all he needed in the way of provisions, clothing, etc." (*op. cit.*, pp. 34-44).

The chronicle goes on to relate how the lords of the inner circle devoted their time to the affairs of government, the regulation of the calendar and the study of writing, medicine, and the sciences.[56]

It seems significant that, throughout Central America, two ruined cities of about equal size are usually found in comparatively close proximity to each other, and seemingly pertaining to the same culture. Thus we have

Quirigua, in the valley of the Motagua river, and Copan its sister-city, situated at a distance of about twenty-five miles, but nearly 1,800 feet above it, in the wooded hills. Between Palenque and Menché (Lorillard City) there are about fifty miles, whilst Tikal and Ixkun are forty miles apart. In Yucatan, as we have learned from Bishop Landa's "Relacion," there were Mayapan and Zilan, and as the latter name also signified "embroidery" it looks as though it had been a noted centre of female industry.

Then, after a lapse of years, "a large number of tribes, with their lords, came to Yucatan from the south." Bishop Landa conjectures that, although his informants did not know this for certain, "these tribes must have come from Chiapas, many words and the conjugation of some verbs being the same in Yucatan as in Chiapas where there existed great signs showing that ancient capitals had been devastated and abandoned," possibly by earthquakes, famine, disease or warfare. It has been surmised that the venerable Bishop alluded, in this sentence, to the ruins of Palenque in Chiapas.

Although not mentioned by Cogolludo or Lizana it is accepted that the new-comers were the Tutul-xius. According to an ancient Maya chronicle, "at a date corresponding to 401 A.D., the four Tutul-xius had fled from the house of Nonoual, to the west of Zuiva and came from the land of Tulapan. Four eras passed before they reached the peninsula of Yucatan named Chac-noui-tan under their chieftain, Holon-Chan-Tepeuh," a name which is equally intelligible in Maya, Tzendal and Nahuatl and means Head-Serpent [pg 211] and "lord of the mountain," according to Brasseur de Bourbourg, who states that the latter was a sovereign title amongst the Quichés.

Landa relates that, after wandering about Yucatan for forty years (possibly in search of the stable centre) these tribes settled near Mayapan, subjected themselves to its laws and lived in peaceful friendship with the Cocomes.

The new-comers brought with them the atlatl or spear-thrower which is minutely described but is evidently regarded as a weapon of the chase.[57] The chronicle goes on to narrate that the Cocom governor, having become ambitious for riches, entered into a treaty with Mexican warriors who were garrisoned at Tabasco and Xicalango by the Mexican ruler and induced them to come to Mayapan and to aid him in oppressing the native lords. The latter and the Tutul-xius rebelled against this action and, having observed the Mexicans and become experts in the art of using their bow and arrow, lance, hatchet, shield and other defensive armor, they "ceased to admire and fear the Mexicans and began to make little of them, and in this condition they remained for some years."

A lapse of years passed and another Cocom chief formed a fresh league with the Tabasco people. More Mexican warriors came to Mayapan and supported him in tyrannizing and making slaves of the lower class. Then the Tutulxiu lords assembled and decided to murder the Cocom ruler. Having done so they also killed all his sons with the exception of one who was absent; burnt their houses and seized their plantations of cocoa and other fruits, saying that these compensated for what had been stolen from them. The differences which subsequently arose between the Cocome and the Xius people resulted in the final destruction and abandonment of Mayapan after an occupation of more than five hundred years, both tribes returning to their countries.

"The lords who destroyed Mayapan (about 120 years before the Conquest) carried away with them their books of science.... The son of the Cocom lord, who being absent had escaped death, returned and gathered his relations and vassals together and founded a capital.... Many towns were built by them in the hills and many families descended from these Cocomes. These lords of Mayapan did not revenge themselves upon the Mexican warriors [pg 212] but generously exonerated them from blame because they were strangers and had been persuaded to

come into the land by its former ruler. They allowed them to remain unmolested in the country and to found a city on condition that they kept to themselves and married in their own tribe only. These Mexicans decided to settle in Yucatan and peopled the province of Can-ul which was assigned to them and they continued to live there until the second invasion of the Spaniards."

At Chichen-Itza, situated at about twenty-three leagues from the ancient site of Mayapan, there exists substantial evidence of the existence of these Aztec warriors, with indications that they pertained to the Mexican warrior-caste of the ocelots or tigers. It is a recognized fact that the remarkable bas-reliefs, which still cover the walls of the "temple of the tigers" at Chichen-Itza, are strikingly Aztec in every detail. The exact counterparts of the Atlatls, they hold, are visible on the so-called "Stone of Tizoc" in the city of Mexico. Sculptured on the wall opposite the entrance of the temple there are about thirty-six war-chiefs grouped in three parallel rows of twelve each, the majority of whom are apparently rendering some form of homage to a seated personage surrounded by rays, while others are having an encounter with a monstrous serpent. On the side walls and slanting roofs more warriors are figured, many accompanied by a rebus or hieroglyph which evidently records, in Mexican style, individual names. The total number of sculptured warriors seems to have been about one hundred. If each of these represented, as may be supposed, a "count of men," it is evident that a large force of Aztec soldiers must have lived in Yucatan at one time.

Other interesting monuments at Chichen-Itza deserve a passing mention. Mr. Teobert Maler (Yukatekische Forschungen, Globus, 1895, p. 284) relates that there are two pyramid-temples in the terraces of which the remains of great stone tables have been found. He states that one of these tables was originally supported by two rows of seven sculptured caryatids and by a central row of plain columns with flat, square tops. Traces of paint showed

that the figures had been painted, that a yellow-brown color had predominated, but that all ornaments or accessories were either blue or green. The caryatids exhibited a variety of costume and of size and each showed a marked individuality. The second table standing in a larger temple, was originally painted red and supported [pg 213] by twenty-four caryatid figures which resemble each other closely, show no individuality and which seem to have been disposed in two rows of twelve each. Mr. Maler infers from this that, being more highly conventionalized, they were of a later date than the previous examples. If it were not for the circumstance that both tables had the same number of supports their numeral 24 might pass unobserved. As it is, I shall recur to it on mentioning other monuments with figures yielding the same number and disposed, in one case, as 6×4. In connection with these stone tables I recall the fact that, in the Maya language, they were called Mayac-tun.

Mr. W. H. Holmes (*op. cit.*, p. 134) tells us that in one case the continuous table had been formed by a series of limestone tablets averaging three feet square and five or six inches thick, each slab having been supported by two of the dwarfish figures which stand with both hands aloft, giving a broad surface of support. He ascertained that "these slabs were wonderfully resonant and when struck lightly with a hammer or stone, give out tones closely resembling those of a deeply resonant bell, and the echoes awakened in the silent forest are exceedingly impressive." Mr. Holmes' account of these resonant stone tables is of particular value to me because it throws an interesting light upon the following Maya words: I have already stated that the native name for table is Mayac, and that a stone table is Mayac-tun. The word *tun*, however, not only signifies stone, but also sound and noise. From this it would seem that stone tables such as Mr. Holmes describes were made expressly for the purpose of emitting sound and employed like the huehuetl or wooden drums of the ancient Mexicans to summon the people to the

temple and to guide the sacred dances.

The existence of the word tun-kul, which is either “stone-bowl” or “sound-bowl,” seems likewise to indicate that hollow stone vessels were used at one time as gongs. At the present day the Mayas name the small wooden drum of the Mexicans a “tunkul,” whereas its Nahuatl name is “te-ponaxtli,” the prefix of which, curiously enough, seems also to be connected with tetl = stone. A curious light is shed upon the possible use of some of the many stone vessels found in Mexico and Yucatan by the above linguistic evidence.

In conclusion I quote Mr. Maler's authority for two points concerning [pg 214] Chichen-Itza which are not generally known. First, that its name should be pronounced "Tsitsen-itsa," and, second, that he saw there no less than five recumbent statues, holding circular vessels. Each of these figures exhibits the same form of breast-plate as the Le Plongeon example now at the National Museum of Mexico (pl. IV, fig. 1). Mr. Maler states that it seems to have been the tribal mark of the Cocomes, the whilom rulers at Chichen-Itza; but it is interesting to note the general resemblance of this ornament to the blue plaque worn by the Mexican "Blue Lord," the Lord of the Year and of Fire, "Xiuhtecuhtli," who is also usually represented with a Xiuh-tototl or "blue-bird" on the front of his head-dress.

These facts seem to indicate that the characteristic breast-plate, instead of being a mark of the Cocomes, may have been that of the Tutul-Xius, and that this title has some connection with that of Xiuh-tecuhtli, the Mexican "Lord of Fire." It has been already set forth in the preceding pages that the sacred fire was kindled in the stone vase held by the recumbent figures, a fact indicating that the identical form of cult was practised in Mexico and at Chichen-Itza. This identity is satisfactorily accounted for and explained if we accept the simple native records of the invitation extended to Mexican warriors by a Maya chieftain and their subsequent permanent residence in Yucatan.

The limitations of my subject do not allow me to do more than mention two other important ruined cities of Yucatan, Izamal and Uxmal. I will however note that, judging from the illustrations I have seen, Uxmal seems to be the "Serpent-city" of America, par excellence, its

buildings exhibiting the most elaborate and profuse employment of the serpent for symbolical decoration. One inference from this might be that the serpent was the totemic animal of the ancient builders of this city. The foregoing rapid review of the native chronicles of Yucatan shows that even the foundation of Mayapan was comparatively recent; that the peninsula had, in turn, harbored powerful tribes who had drifted thence from the southwest and Mexican warriors whose aid had been sought by consecutive rulers of Chichen-Itza. We see that Yucatan was the meeting ground for Maya- and Nahuatl-speaking people and that the tendency was to leave the peninsula in search of a more favorable soil and climate as soon as opportunity was afforded.

Since the cradle of the Maya civilization is evidently not to be [pg 215] looked for in Yucatan, let us follow the clue afforded by the native traditions, transport ourselves to some of the most important ruined cities of Central America and endeavor to wrest from their monuments some knowledge of the social organization of their ancient inhabitants. In order to institute this search under the most favorable circumstances, I ventured to apply for guidance to Mr. A. P. Maudslay who has made a more thorough, prolonged and extensive study and exploration of these ruined cities than any other person. Upon my request to formulate his opinion as to the respective antiquity and chief characteristics of the most noted sites, this distinguished explorer has most kindly authorized me to publish the following note.

“But for a brief note in Nature (28th April, 1892), I have never classified the ruins or attempted to give proofs of differences in age of the monuments, but roughly you may safely class them as follows: I am inclined to look on the Motagua river group as the oldest. The Yucatan group is certainly the youngest. Of course there are many other smaller differences between the groups and much overlapping. Whichever group may be the oldest the art is there already advanced and the decoration has taken

forms which must have occupied many kinds of workers to conventionalize from natural objects."

1. On Motagua River, Quirigua, Copan. Large monolithic stelæ and altars with figures and inscriptions carved on all four sides in rather high relief, some groups pictographic. No weapons of war portrayed in the sculpture.

2. On Usumacinto River, Menché, Tinamit, Palenque, Ixkun. Stelæ are usually flat slabs carved with figures and inscriptions in low relief on one side only. External ornament of the buildings usually moulded in stucco. War-like weapons but very scarce.

3. Tikal. Intermediate between Nos. 2 and 4, but somewhat different and distinct from either.

[pg 216]
4. Yucatan. Chichen-Itza, Uxmal, etc. Stelæ very few in number and poorly carved. Inscriptions carved in stone are very scarce. Inscriptions were probably *painted* on the walls of the temples. External ornament of buildings formed by a mosaic of cut stones somewhat resembling Zapotec or Aztec style. Every man portrayed as a warrior [on the bas-reliefs].

By means of the magnificent set of casts which Mr. A. P. Maudslay has generously presented to the South Kensington Museum, London, and with the aid of his monumental and splendidly illustrated work on the Archaeology of Central America, which has been appearing as a part of the Biologia Centrali-Americana, edited by Messrs. Godman and Salvin, I have been able to verify the following facts which will be found to throw light on the purpose and meaning of some of the ancient monuments.

Before examining the great, elaborately carved stelæ which are characteristic of Quirigua and Copan, let us search the native chronicles for some clue explanatory of

the purpose for which they were erected.

Bishop Landa has transmitted to us some details about the destroyed metropolis of Mayapan given to him by Yucatec informants who stated that "in the central square of that city there still were 7 or 8 stones, about ten feet high, rounded on one side and well sculptured, which exhibit several rows of the native characters, but were so worn that they had become illegible. It is supposed, however, that they are the record of the foundation and destruction of that capital. Similar, but higher monuments, are at Zilan, a town on the coast. Interrogated as to the meaning of these monoliths the natives answered: It had been or was customary to erect similar stones at intervals of 20 years which was the number by which they counted their eras." Bishop Landa subsequently remarks that "this statement is not consistent," for, according to this "there should be many more such stones in existence, and none exist in any other pueblo but Mayapan and Zilan."[58]

[pg 217]
Disagreeing with the venerable Bishop, I find in the above statements the most valuable indications of the former existence of two centres of culture in Yucatan. There is a curious affinity between the name Zilan (pronounced Dzilan) and Chilan given as "the title of a priestly office which consisted of a juridistic astrology and divination," by Landa. There may even be a connection between zilan and zian = origin, commencement; zihnal = original and primitive, which may be worthy of consideration in association with the well-known statement, quoted by Dr. Brinton, that "the most venerable traditions of the Maya race claimed for them a migration from Tollan in Zu-iva —thence we all came forth together, there was the common parent of our race; thence came we from amongst the Yagui men, whose god is Yolcuatl Quetzalcoatl." Dr. Brinton adds that "this Tollan is certainly none other than the abode of Quetzalcoatl named in an Aztec manuscript as 'Zivena Uitzcatl.'" Vague as any conjecture must necessarily be, I cannot but

deem it of utmost importance that systematic excavations be made, some day, at Zilan, for the purpose of bringing to light the stelæ referred to by the native informants of Bishop Landa.

According to Brasseur de Bourbourg “Zilan, situated at about 20-½ leagues from Merida belonged to the Cheles people.[59] It is the seaport of Izamal and contains the ruins of one of the greatest pyramids or artificial mounds (omul) in Yucatan,” a fact which corroborates the view that it was an ancient important capital. The northern coast of Yucatan is extremely remarkable for it is divided from the Gulf of Mexico by a continuous strip of land between which and the mainland there is a narrow channel of water. There are two openings only in this zone of land which afford a passage into the navigable channel. One of these openings is situated almost opposite to Zilan and is known as the Boca de Zilan. At a short distance to the east there is a second such “boca” opposite to the mouth of the Rio Lagartos, which is a [pg 218] large estuary and the only river on the northern coast of Yucatan.[60]

Let us now transport ourselves, mentally, south of the peninsula to Honduras and, leaving the coast, ascend the Motagua valley to the ruins of Quirigua and Copan,[61] which have impressed Mr. Maudslay as being of great antiquity. Before examining such of these monuments as seem to yield the testimony we are seeking, let us again recall Landa's record that the Mayas erected stelæ as memorials of each 20-year period. To this statement should be added, at full length, Cogolludo's record that “the Mayas employed eras of 20 years and lesser periods of 4 years.[62] The first of these four years was assigned to the east and was named Cuch-haab; the second, Hiix, to the west; the third, Cavac, to the south and the fourth Muluc, to the north, and this served as a ‘Dominical letter.’ When five of these four-year periods had passed, which form twenty years, they called it a Katun and placed one sculptured stone over another sculptured stone

and fixed them with lime and sand [mortar] to the walls of their temples and houses of the priests."[63]

The term katun is closely linked to the said employment of memorial stones, for tun is the Maya for stone and ka seems to stand for kal or kaal = 20. The word hun-kaal = 20, means literally, "one complete count," or "a count which is closed," since the verb kaal means to close, shut, or fasten something. According to the above a katun literally means "the 20 (year) stone;" but we know that, by extension, it designated the era itself as well as war and battle. Thus we find the verb katun-tal = to fight.

Cogolludo continues: "In a town named Tixuala-tun, which signifies 'the place where they place one stone above another,' [pg 219] they say that they kept their archive, containing records of all events.... In current speech katun signified era and when a person wished to say he was sixty years of age, he used the expression to have three eras of years or three stones. For seventy they said three and a half stones or four less one-half stone. From this it may be seen that they were not too barbarous, for it is said that [by this system] they were able to keep such exact records that they not only certified an event but also the month and day on which it took place."

By referring to Maya and Spanish dictionaries we gain supplementary valuable information about native memorial stones. We find the name amaytun given as that of "a square stone on which the ancient Indians used to carve the 20 years of the period ahau-katun, because the four remaining years which completed the epoch, were placed underneath, so as to form a sort of pedestal which was called, for this reason, lath oc katun or chek oc katun. By extension, painted representations [of the epoch] were also named amaytun." The dictionary further informs us that amayté was the name for the first twenty years of the ahau katun, which were carved on the square stone and we see that amayté also means "something

square or with corners" and is formed of amay = corner.

Equipped with the foregoing knowledge of the sort of memorial it was customary for the Mayas to erect, let us now see whether the ruins of Copan furnish any monuments which would answer to the description and purpose of "amay-tés" and "ka-tuns." Referring the reader to parts I-III of Mr. A. P. Maudslay's work already cited, I draw special attention to the following stelæ and altars which are so admirably figured therein.

Stela F, which stands at the east side of the Great Plaza at Copan and faces west, is in a particularly bad state of preservation. It exhibits a standing figure on one side whose head is surmounted by an indescribable combination of a mask, a seated figure and much elaborate feather-work. A noteworthy feature, which recurs on other stelæ in Copan and Quirigua, is an appendage which appears like an artificial beard attached to the chin of the personage. At the sides of the stela serpents' heads alternate with diminutive grotesque figures. On the back, or east side of the stela, two cords are represented which appear to have been brought over from the front and which are tied together so as to form five open loops, [pg 220] in each of which, as in a frame, there is a group consisting of four calculiform glyphs. The cord, which is knotted together at the base of the stela, appears to pass around it. It is impossible not to recognize that this representation of twenty glyphs, as divided into five groups of four, exactly agrees with Cogolludo's records that the Mayas employed 20-year and 4-year eras and that when five of the 4-year periods had passed they called it a ka-tun, and made a carved memorial of it. As Landa tells us that they erected stelæ to commemorate the 20-year period, the inference to which the Copan Stela F leads us is that it is a katun and that the twenty glyphs carved on it are year-signs. Examination, however, shows that, whereas the Maya Calendar had but four year-signs which would naturally be bound to repeat themselves in each group of four years, no two glyphs on

the Stela F are alike. It is obvious, therefore, that the glyphs are not the four calendar year-signs and reflection shows, indeed, that it would have been quite superfluous to carve these repeatedly on a stela. As each year-sign was identified with a cardinal point and an element and was permanently associated with a particular color, the mere employment of the latter would suffice to convey this association of ideas. What is more, the relative positions of the four glyphs composing each group would also indicate the four year-signs and thus the sculptor of the stela would have been at liberty to record by the shape of his glyphs any fact he chose to connect with each year of the era. A curious linguistic fact must also be taken into consideration: The Maya name for the four year-signs was Ah-cuch-haab and the title for a chief or ruler of a town was Ah-cuch-cab. The mere presence on the stela, of the figure of the ruler, would suffice to convey the certainty that the count of the four year-signs was understood to be present. On Stelæ F and M, each of which displays twenty glyphs and one sculptured personage, the latter is particularly characterized by being associated with head-dresses and emblems consisting of elaborate conventionalized plumed serpents' heads. The inference naturally is that the serpent symbolism, which recurs in some form or other on every stela effigy, expresses or conveys that the rank and title of the personage were that of a Kukul-can, the high-priest ruler who impersonated the “Divine Four,” or of some lord = Ahau, who was also “ruler of the four regions.”

It must be recognized that a stone stela, on which is sculptured [pg 221] the image of a lord and a count of 20, answers exactly to the memorial stone named Ahau-ka-tun, literally, lord, 20 stone, and it is easy to see how the period or era of twenty-four years should come to be called by the name of the stone which commemorated it, and each era to be differentiated by being designated by the personal name of the ruler who held office during its course. The result would be practically the same as the allusion to a particular reign in a nation's history, with

the seeming difference that all ancient American rulers and their subordinates held fixed terms of office, coinciding with the various periods of the calendar.

The inscriptions on the foregoing stelæ are made of glyphs of a uniform character. Other stelæ at Copan display the interesting set of $6+1=7$ signs which recur on so many Central American monuments and strikingly coincide in number with the all-pervading division into six parts plus the middle and synopsis of all. Of this "septenary set of signs," six are uniform in size and character whilst the first is more elaborate and important in every respect and, as I shall set forth by a series of illustrations in another publication, actually does symbolize the union of the Above and Below. It is to Mr. Maudslay that we owe the recognition of the existence of this septenary set of glyphs, which he announced as follows to the Royal Geographical Society in 1886:

"A number of Central American inscriptions are headed by what I shall call an initial scroll (the style of which is permanent throughout many variations) and begin with the same formula, usually extending through six squares of hieroglyphic writing, the sixth square, or sometimes the latter half of the sixth square, being a human face, usually in profile, enclosed in a frame or cartouche" (Proceedings, p. 583).

The septenary group occurs on Stelæ A, B, C, E, I, P. It is curious to find that the initial sign is sometimes, as on two sides of Stela P, followed not by 6 glyphs only, but by $4\times6=24$ glyphs. On the east side of Stela P, it is succeeded by 22 glyphs and a carved design which seems to indicate the beginning or end of the count. On Stela I the initial is also followed by $4\times6=24$ glyphs, and on Stela A by 12 double ($=24$) glyphs on side 1, whilst side 2 displays 13 and side 3, $2\times13=26$. On Stela B two sides exhibit 13 glyphs each and the back $2+$ the initial. On two sides of Stela C the initial is followed by $2\times7=14$ glyphs. It cannot be denied that the foregoing stelæ

collectively yield counts [pg 222] of 4×5, 7, 13, 20 and 24, which undoubtedly coincide with the well-known numerical organization and prove that this dominated the people who erected them.

The certainty that the ancient inhabitants of Copan associated the idea of a central ruler with quadruple power is afforded by a remarkable bas-relief which Mr. Maudslay has kindly allowed me to reproduce here (fig. 55), from a drawing made by Miss Annie Hunter.[64]

This carved slab, the size of which is 5' by 4' 6", was found in four pieces in the western court of the main structure of Copan and according to Mr. Maudslay's opinion, “formed part of the exterior ornament of temple 11 or the slope on which it stood.” It undoubtedly claims a minute examination, as it strikingly illustrates how the native ideas, I have been setting forth in the preceding pages, were originally suggested by the observation of Polaris. Seated cross-legged, and resting on the centre of the foliated swastika, is the figure of a personage whose titles are clearly discernible.

Figure 55.

He is designated as a ruler, not only by his attitude of

repose, but by the fact that he wears a breast ornament in the form of a face or head (of the sun) and holds in his hand (*i. e.* governs) a vase or bowl (see p. 72). Those show him to be the chief or head of all and the Cum-ahau, or lord of the sacred vase or bowl (see p. 93). As the latter contains what appears to be a variant of the glyph ik and the word ik signifies breath, air and wind, by extension life, we realize that he is designated as the lord of breath and life. The glyph which covers his face bears a native cross-symbol and this, as well as the cruciform figure, the centre of [pg 223] which he occupies, conveys the idea of quadruplicate power. The double and bent arms of the cross-symbol strikingly resemble the conventionalized puffs of breath or air which are so frequently depicted in Mexican Codices, as issuing from the mouths of speakers. Almost identical representations of curved puffs are figured as issuing from open serpents' jaws in a bas-relief at Palenque, of which more anon.

Mr. Maudslay has pointed out that on stelæ from Copan and Quirigua a profusion of analogous curved signs occurs also in connection with serpents' heads. A special feature of the curved puffs of breath on the Copan "swastika," as it has been named, are small seed-like balls which are distributed in detached groups of threes along their inner and outer edges, and are usually accompanied by what resembles the small calyx of a flower, making four small objects in all. These balls, which also recur in the Palenque symbol, forcibly recall a passage of the Zuñi creation myth recounted by Mr. Cushing.

It relates that, at a certain stage of the creation, "the most perfect of all priests and fathers named Yanáuluha ... brought up from the underworld, the water of the inner ocean and the seeds of life production" ... Subsequently, on a feathered staff he carried, "appeared 4 round things, seeds of moving beings, mere eggs they were; two blue like the sky and two red like the flesh of the earth-mother."...

I cannot but think that these words from a purely native source explain the Copan sculpture more correctly than any inference that could be made, and authorize the explanation that the central figure represents the “four times lord,” or “lord of the four winds,” titles which were applied in Mexico to Quetzalcoatl and Xiuhtecuhtli. At the same time the bas-relief teaches us that “the four winds” had a deeper meaning than has been realized, for it represents life-giving breath carrying with it the seeds of the four vital elements, emanating from the central lord of life, spreading to the four quarters and dividing itself so as to disseminate vitality throughout the universe. The title Kukulcan = the Divine Four, also serpent, proves to be even more expressive of this conception of a central divinity than the Mexican Divine Twin, or serpent. I am therefore inclined to consider that it originated with a Maya-speaking people, to whom, more graphically than to any one else, this bas-relief would have served, as a [pg 224] joint image of the star-god, the heart of heaven, named Hura-kan; of the terrestrial lord Ah-cuch-cab, the heart or life of the State; of the State, with its hun-kaal or one count of twenty subdivisions of people and its quadruple head and body and, finally, of the native cosmology.

The Copan swastika enables us to come to another interesting conclusion. It is a refined representation of the set of thoughts suggested by Polaris, the idea of a stable centre being graphically rendered. Movement in four directions is also symbolized. As, in the latitude of Copan, Ursa Minor is the only circumpolar constellation which could have been observed in four opposite positions, it is obvious that Ursa Minor with Polaris must have constituted the Maya Celestial Heart or Life = cuxabal. The following points remain to be discussed in connection with the Copan swastika.

1. To be complete and in keeping with native modes of representation it must have originally been painted with the symbolical colors of the Four Quarters.

2. It is on a wooden club from Brazil or Guiana that, strange to say, I find a cross symbol with bifurcated branches, which most closely resembles the Copan type. Directing the readers to the illustration of this club as fig. 8, pl. XV, in Dr. Stolpe's work already cited, I would ask them to examine also his fig. 7, with a design expressing dual and quadruple divisions; fig. 9*b*, with circles containing cross lines; 9*a*, with what resembles somewhat a Maltese cross but also conveys duality; fig. 11*b* with a cross in a scalloped circle and a curious disc between four signs, with a band of alternate black and white squares and its reverse 11*a*, with triangles, to which I shall revert; and figs. 10*c* and *d*, each with a mound from which a tree is growing. Though tempted to refer to many other symbols I shall limit myself to pointing out that his fig. 1, pl. XIV, exhibits a group of five circles in a circle which strikingly recall the Mexican examples and the Maya ho = 5. As each of the foregoing symbols is intelligible and belongs to a group of ideas which I have shown to have been general throughout America, but to have necessarily originated in the northern hemisphere, it seems pretty clear that they must have gradually found their way to Brazil and Guiana from the north by means of coast navigation and traffic.

3. Concerning the bowl in the hand of the figure occupying the [pg 225] middle of the swastika a few remarks should be added to those already given on pp. 72 and 93.

Formed of clay the bowl was an expressive symbol of the earth. Placed in elevated positions on the terraces of the temples, and filled by the first annual showers which fell upon the parched earth, the bowl of celestial water naturally became invested with peculiar sanctity, and was gradually regarded as containing particular life-giving qualities. One use to which bowls full of water were put, in ancient Mexico, seems to explain further the ideas associated with them. It is well known that bowls of water were used at night for divination purposes, just as

were black obsidian mirrors. This seems to prove that the latter were a subsequent invention which was adopted because it permanently afforded a surface for purposes of reflection.

In the native Maya chronicles the reflection of a star upon the trembling and moving surface of the water, is given as the image of the Creator and Former, the Heart of Heaven, and it was believed that the divine essence of life was thus conveyed to earth by light shining on and into the waters. It is well known that it was customary for the priests of the Great Temple of Mexico to bathe at midnight after fasting, in a sacred pool so deep that the water appeared to be black. This artificially-produced peculiarity would have rendered its surface particularly useful for the observation and registration of the movements of stars by their reflections.

Thomas Gage quaintly tells us, moreover, that at the consecration of a certain idol "made of all kinds of seeds that grow in the country ... a certain vessell of water was blessed with many words and ceremonies, and that water was preserved very religiously at the foot of the Altar for to consecrate the King when he was crowned and also to blesse any Captain Generall, when he should be elected for the Warres, with only giving him a draught of that water" (*op. cit.*, p. 53). It is well known that infants also underwent a form of baptism.

The preceding and other evidence, which is scarcely required, enables us to realize the full significance which the symbol of a bowl surmounted by the glyph ik = life, breath, soul, was intended to express and convey.

The collection of rain-water in vessels, exposed so as to receive the reflection of the one immovable star-god, was doubtlessly employed as a test of the stability of the Middle of the Earth by [pg 226] many generations of priest-astronomers. The sanctity attached to this water, as having absorbed the divine essence of light and the attribution of life-giving properties to it, was but the

natural sequence of such star-observation. As the title "the lord of the vase or bowl" = Cum-ahau, indicates, the supreme priest of Heaven alone seems to have attended to all rites concerning the sacred bowl and the distribution of its celestial life-giving contents. The symbolical decoration of many native bowls will be found to corroborate this view of their employment and of the virtue attributed to their contents.

By this time I trust that my readers will realize with me that, at Copan, the native set of ideas had long taken deep root and flourished. We have seen that the identical numerical divisions of time and tribes and the same symbolism prevailed as have been traced in Peru, Guatemala, Mexico, Yucatan, Zuñi, etc. The following monuments will still further establish this kinship of thought. Copan contains two stone slabs which answer to the description of an amay-tun, inasmuch as they are square and appear to be memorial stones. Let us see whether some clue to their purpose can be obtained from the carvings upon them.

On each of the four sides of altar K four personages are carved, all seeming to be of equal rank. Of these $4 \times 4 = 16$ chieftains, eight wear a breast ornament in the form of a double serpent, whilst the remaining eight wear a somewhat plainer kind. On the west side the two central figures face each other and two diminutive glyphs are carved in the space between them. The most striking feature about the representation of these personages is, that each of them is seated, cross-legged, on a different composite glyph; some of these exhibit animal forms. This is a fact of utmost importance, for it definitely connects distinct personalities, obviously chieftains with composite glyphs, some composite parts of which are obviously totemic. On the upper surface of this monolith there are $6 \times 6 = 36$ single glyphs, which yield 9 groups of 4. If these 9×4 be added to the 4×4 glyphs on which the chieftains are respectively seated, we obtain 13 groups of 4, equivalent to 52. It is superfluous to repeat that there

are fifty-two years in the Mexican cycle and that just as this square altar has 16 figures carved around it, the great monolithic Stone of Tizoc in the City of Mexico has 16 groups. In the latter case each group is accompanied by the name of a tribe and its capital. [pg 227] It looks very much as though the glyphs on which the chieftains on Altar K are seated also express tribal names.

A careful study of the other square monolith at Copan, known as the Alligator altar, will enable us to form a better estimate of the probable meaning of glyphs, employed as seats by chieftains. The Alligator altar takes its name from the sculptured animal which is stretched over its upper surface. Human figures are represented as connected with the different parts of the animal's body, in a way which forcibly recalls Mr. Cushing's explanation of how the various members of a tribe were associated with a part only of their totemic animal and bore the name of this part as their title of honor, according to a strict order of precedence.

According to Mr. Maudslay's description: “Upon the upper surface of the monument are two apparently human figures seated upon the arms of the alligator. Both figures are much weather worn; each has what appears to be a glyph in its hand, which is outstretched toward the alligator's head. Between the alligator's arms and legs four human figures are seated in similar positions, two on each side of the body. These figures have large mask head-dresses and carry offerings in their hands. There are two figures on the north side of the monument, one on either side of the tail of the alligator; each is seated on a glyph. The figures are human, but in place of a human head each figure is surmounted by a glyph. Each figure holds a glyph with the numeral ten attached to it in its outstretched hand.”

Since the above partial description of the altar was written, Mr. Maudslay has found that one of the above glyphs is “Mol” and the other “Zip,” and has identified

the glyph used as a head for each figure as the day-sign Cabal. This fact is of particular interest as the meaning of this sign seems to be connected with Caban = the Below, and the two figures with Cabal heads are sculptured at each side of the alligator's tail which is the part of least honor, not only according to Zuñi etiquette, but also according to Mexican ideas, the word for tail being employed, metaphorically, for vassals.

To this description I would add that a careful study of the cast of this monument in the South Kensington Museum, and of the illustrations in Mr. Maudslay's work reveals that, of the four figures on the west side, one only has a human head, whilst two have human bodies with animal heads and one a semi-human face and [pg 228] the body of a bird. Of the four figures on the east side, the first represents a man seated on a glyph, the second a human body with an animal head and the third and fourth semi-animal, bird and human figures. Amongst the recognizable animal forms represented, we distinguish an ocelot, an unmistakable alligator's head and the head of a monster with huge jaw and serrated teeth which strongly resembles the Mexican sign Cipactli, a nondescript "marine monster." One detail is worthy of special notice: the left hand of one of the figures on the east side terminates in a serpent's head, in a fashion recalling that of the Santa Lucia bas-reliefs.

The following résumé will make the distribution of the figures and glyphs on the altar quite clear. Top: outstretched alligator body, whose legs and claws are sculptured over the corners of the altar. On each shoulder 1 figure with glyph = 2. On each knee 2 figures = 4, making a total of 6 figures on the top. On east and west sides respectively, 4 figures; on north side 2 figures, on the south side 4 figures on composite glyphs = 14. The total number of figures on top and sides is 20, each of which is intimately associated with a glyph. Under the snout of the alligator, on the south side, there are $2 \times 4 = 8$ glyphs.

When carefully analyzed we ultimately find that the surface of the altar exhibits in the first case two chieftains of equal rank, but respectively seated on the right and left forelegs of the tribal totem. To my idea this demonstrates that the dual rulership, such as existed elsewhere, prevailed at Copan, and that two lords of the alligator tribe were entitled the right and left forelegs or "arms" of the animal totem. It should be noted here that the Maya name for alligator is chiuan or ain. The dictionaries contain also the following names for the same or allied species: Sea-lizard, alligator (?), ixbaan; lizard in general = ix-mech, or mech, ix-be-bech, ixzeluoh and ix-tulub. Obviously occupying positions of less honor there are $2 \times 2 = 4$ chiefs of equal rank but seated, respectively, on the right and left hind legs of the totem. These again are evidently equivalent to the four sub-rulers of Mexico and Yucatan, the Maya Bacabs or Chacs.

Lastly, the twenty different figures, connected with particular glyphs, are equivalent to the division of the tribe into as many portions, minus the head. The eight glyphs associated with this added to the twelve glyph-figures, complete the numeric organization [pg 229] into twenty. From this monument, the sides of which were probably painted, originally, in four colors, it would seem that the alligator clan, ruled by two chiefs and four lesser rulers, was organized into twelve divisions of people and eight classes of another kind. A circular tablet at Quirigua, which I shall describe further on, exhibits a subdivision into $2 \times 6 = 12 + 5 + 3 = 20$.

It is not necessary to emphasize how remarkably the Copan altar conforms to the Zuñi method of clan-organization. It suffices for my present purpose merely to establish the community of thought which existed throughout, but which found its highest artistic expression and development in Central America.

There are several other smaller carved monoliths, one of which usually lies in front of a stela. For this reason they

have been popularly named “altars,” just as the stelæ have been called “idols.” The majority of these “altars” contradict this appellation by their utterly unsuitable shapes and profuse carvings on their upper, often irregular, rounded surfaces. Some of these monoliths consist of a monstrous head, the shape of which is almost lost under an indescribable mass of ornamentation. In some cases, however, they recall the semblance of the large glyphs on which chieftains are represented as seated on the carved sides of the square monoliths just described. So strongly do some of these resemble certain forms, that I venture to express my belief that, on ceremonial occasions, these carved heads may have served as the seats or stools of honor for chieftains of the rank of those portrayed on the bas-reliefs. The Maya word tem, the plural form for which is tetem, seems to be applicable to such totemistic carved stones. It is translated as stone altar, seat or bench (*cf.* Nahuatl word te-tl = stone). Other minor monoliths are carved with glyphs. “Altar G,” illustrated in Mr. Maudslay's work, exhibits four glyphs only—an interesting number, replete with significance to the native mind.

The number 24 occurs on Altar R on which the glyphs are disposed as $2 \times 4 = 8 + 2 \times 8 = 24$. The number 24 recurs on the top of Altar U, where the glyphs are disposed in 3 rows of 8 each. At the same time the back of this altar exhibits $5 \times 10 = 50$ and its sides $2 \times 2 = 4$ glyphs, which may possibly constitute separate records. In the majority of foregoing cases the glyphs are single and comparatively simple. On Altar S, however, we have double and quadruple glyphs, the latter obviously being a highly developed cursive method of recording facts, rendered possible by the minute [pg 230] classification of all things in the State into definite divisions with fixed relationships to each other.

Having lingered so long in Copan we can but glance at Quirigua and note its most remarkable features. This ruined city lies on Motagua river, 1,800 feet below and at

about a distance of twenty-five to thirty miles from Copan. It is now subjected to almost annual inundations from the river and its situation in marshy surroundings renders it extremely unhealthy. It may have been partly on this account that the neighboring capital of Copan was founded in an elevated and salubrious position.

An interesting fact has been pointed out to me by Mr. Maudslay, namely, that the ground plan of both groups of ruins is almost exactly the same, Copan being only somewhat the larger of the two. This identity proves that the same distinct scheme of orientation was carried out in both places and that importance was undoubtedly attached to the relative positions of the pyramid-temples, courts and buildings.[65] A proof that two distinct castes of rulers existed and were respectively associated with the northern and southern regions of the capital is furnished by a circumstance communicated to me by Mr. Maudslay. In Copan, as well as at Quirigua, some of the individuals sculptured on the stelæ are beardless, whilst others have beards which seem to be sometimes [pg 231] artificial. These stelæ usually stood at the sides of the great courts, and at the bases of the pyramid-temples. Mr. Maudslay has observed that in both places, all of the bearded effigies are situated to the north of the beardless ones. The first, for instance, occupy the northern and the second the southern side of a court; their respective positions being clearly intentional since it recurs in both cases. This circumstance furnishes additional proof that, in these capitals as elsewhere, the same great primary division into the Above and Below prevailed and shows that the representative rulers of these two castes respectively wore beards or none.

The beard, as an insignia of rank, occurs in several Mexican MSS. and careful observation shows that it is most frequently represented as worn by a high-priest, usually painted black and sometimes wearing the skin of an ocelot. It is found associated with advanced age and with red, the color of the north, a fact which coincides

with the position assigned to bearded effigies at Copan and Quirigua. In Mexican Codices the culture hero, Quetzalcoatl, is figured with a beard, and tradition records that this was his distinctive feature. Images of Quetzalcoatl = the air-god, represent him with a beard, and the calendar-sign Ehecatl = wind, is composed of an elongated mouth and chin to which a beard is attached.

Several of the monuments at Quirigua are the largest of the kind which have been found on the American continent. Stelæ E and F are twenty-two and twenty-five feet high respectively, and both exhibit two human effigies standing back to back. In [pg 232] point of fact, with a few exceptions, amongst which are female effigies, the majority of stelæ at Quirigua are double, namely, A, C, D, E, F, K, in Mr. Maudslay's work, part XI. I cannot but regard this as a proof that in a peaceful, flourishing and long-established state, the dual form of government maintained itself successfully for an extended period of time. On Stela E is one of the most remarkable ancient American portrait-statues that has yet been discovered. It portrays a man with noble and strongly marked features, an aquiline nose and a narrow chin beard, like a goatee.

The Maya dictionaries supply us with the clue to the meaning attached to the beard in pictorial art. The word for beard is meex and for "bearded man," ah-meex, or ah-meexnal, if the beard was long. On the other hand, ah-mek-tancal is the Maya name for "governor and ruler of people or of a town," and ah-mektanpixan means high priest. The first two syllables of these titles, being identical with the word for a "bearded man," seem to explain the reason for the association of rank with a beard, and *vice versa*. Added to preceding data it aids in forming the conclusion that the bearded personages on the stelæ were "high-priests or rulers of people and of towns," that the beard or goatee was the mark of supreme rank and that artificial ones were sometimes worn.

The beardless effigies, on the other hand, obviously

represent individuals belonging to a different caste; and the fact that stelæ exist at Copan and Quirigua on which two figures are carved, back to back, proves that the assignment of the effigies of the two types to separate sides of the courts was preceded by a time when a closer unity prevailed between the dual rulers. The existence of stelæ with female figures proves that here, as well as in Mexico and Peru, there had been a period when "the Below and the cult of the Earth-mother were presided over by a woman."

On each side of the great Stela F is carved the initial followed by $6 \times 6 = 36$ glyphs, which fact seems to indicate that six glyphs pertained to each of the six regions and recorded facts relating thereunto. On the sides of Stela F, each initial is followed by 34 glyphs only, the count being shorter than that of Stela E by $2 \times 2 = 4$. One side of Stela C exhibits the initial followed by 2×13 glyphs grouped in parallel lines, then a horizontal band with 4 glyphs; the other side the initial followed by $4 \times 6 = 24$ and a group of 4 glyphs. Stela D is particularly remarkable on account of the six squares of pictorial glyphs which follow the [pg 233] "Initial" which, in this case, exhibits the head and body of a jaguar in its centre. I refer to Mr. Maudslay's interesting conclusion that these pictorial glyphs preceded, in date, the more cursive method of representing the initial series. In consequence of this jaguar initial, Stela A becomes particularly noticeable, because one of the personages upon it has a beard, whilst the other is masked as an ocelot or jaguar.

A vivid sense of the actuality of the bond that existed between the ancient dwellers at Copan and Quirigua, their totemic animals and symbolic coloring, is obtained on reading Mr. Maudslay's following description of the excavation of mound 4 at Copan (Report Proceedings Geographical Society, 1886, p. 578).... "The excavation was then continued ... when more traces of [human] bones were found mixed with red powder and sand.... Continuing the excavation ... a skeleton of a jaguar was

found lying under a layer of charcoal ... the teeth and part of the skeleton had been painted red. At about 100 yards to the south of this mound I shortly afterwards opened another ... mound ... and found a few small fragments of human bones, two small stone axes and portions of another jaguar's skeleton and some dog's teeth, showing that the interment of animals was not a matter of chance."

If we add this to the accumulation of evidence I have presented, showing that in Mexico and Yucatan the ocelot was associated with the north, the color red, the underworld, the nocturnal cult and with bearded priests, we must admit that there is hope that, some day, we may be as familiar with the life and customs of the ancient Americans as we are now with those of the ancient Egyptians, Greeks and Romans.

Strange animal effigies in stone have been found at Quirigua: one (B) somewhat resembles a dragon and exhibits complex glyphs; another (G) has been named an armadillo and has $2 \times 8 = 16$ glyphs carved on its lower and $2 \times 20 = 40$ on its upper sides.

A circular slab deserves special mention: in its centre is a seated figure. Forming a band around the edge, to the right of the figure are 6 glyphs and 6 others are to his left $= 12$ in all. Above him to his left are 5 and to his left are 3 glyphs. This peculiar distribution of 20 glyphs is of peculiar interest.

The crowning glory of Quirigua, however, is the gigantic block of stone, completely covered with intricate carvings and glyphs, [pg 234] which is known as the "Great Turtle," and of which splendid casts, made from Mr. Maudslay's moulds, are now exhibited in the South Kensington Museum, London, and in the American Museum of Natural History, New York. Of the many features of this remarkable monument, which can be studied in Mr. Maudslay's forthcoming part XI of the Biologia Centrali-Americana, the seated figure, occupying

a prominent place and obviously representing the central ruler, deserves special mention. In his right hand he holds a peculiar sceptre similar to that held by the personage on Stela E. His left hand is concealed under a carved face, a detail which recalls the Santa Lucia bas-reliefs.

Palenque and its group of sister cities now claim our notice. Of the latter Men-ché particularly arrests our attention on account of its name, the second part of which means tree and by extension, tribe. The word *men* is of particular interest, for it is not only the name of a dog in the Maya Calendar but signifies precisely the same as the Mexican word toltecatl, namely, master-builder, artificer or artisan, an adept in manufacture. The habitual form of employing the word would be ah-men, meaning he who is a master builder, etc.; while men-ah or men-yah signifies work or production of manual labor. The first part of the Nahuatl word aman-teca, signifying artisan, artificer, seems to be a corrupt rendering of the Maya ah-men. That Men-ché, which is also known as Lorillard City, was a centre of the highest development of native-sculpture and art seems proven by the truly admirable and exquisitely fine workmanship of the bas-reliefs obtained there by Mr. Maudslay, and now exhibited at the British Museum. In execution and finish they undoubtedly surpass any specimens of ancient American art I have ever seen.

A search for the possible derivation of the word men leads to mehen, the name for "sons or nephews in the male line," mehen-ob, the descendants, mehen-tzilaan = genealogy and parentage (a word which sheds some light on the meaning of the ancient capital Tzilan in Yucatan). Mehen is also employed as meaning something little, small or minute.

From the above data it may be inferred that Men-ché may have originally signified "the tree or tribe of the sons or nephews in the male line," and that these people may have so identified themselves with the arts of building

and working in precious metals and stone, etc., that their title was used as a designation for these industries. [pg 235] It is certainly remarkable that, situated at an easy distance on the same river Usumacinto, there is the great ruined city of Palenque[66] (pronounced by the natives Pa-lem-ke) which seems also to have originally terminated in ché = tree or tribe and to be derived from palil, pal or palal = vassal, servant, subject, also small child. Let us see how far the monuments of Palenque justify and support this translation of its name.

Referring the reader to Mr. Maudslay's Biologia, and to Mr. Holmes' Archæological Studies, Pt. II, and other well-known works on the ruins of Palenque, I shall confine myself to a cursory examination of the four principal isolated pyramid-temples, known, respectively, as the temples of the Inscriptions, of the Sun, of the Cross and of the Cross No. 2. Although the orientation of these edifices is not accurate they may be roughly said to face the cardinal points as follows:—

The temple “of the Inscriptions” faces the north, that “of the Sun” the east, whilst the temple “of the Cross” faces the south and that “of Cross 2,” the west. Dr. Brinton has already shown that the well-known symbol on the famous “Tablet of the Cross” is not a cross, but the conventional symbol for “tree” of the type I have illustrated in the preceding fig. 53. As Cross No. 2 unquestionably belongs to the same category, it results that these two temples would be more correctly designated as “of the Tree” and that they furnish us with an interesting parallel of the Peruvian quisuar can-cha, or “place of the tree,” where the Inca erected two trees which typified his father and mother and were “as the root and stems of the Incas.” The Palenque “trees,” moreover, closely resemble those on the Mexican Féjérvary chart (fig. 52) inasmuch as, in each case, the tree is surmounted by a bird and is flanked by two human figures.

It has already been shown in the preceding pages that in

ancient America the tree was generally employed as a symbol for tribe and that the Maya word for tree = ché occurs as an affix signifying tribe or people not only in Qui-ché, Man-ché (the latter a tribe inhabiting the region of Menché and Palenque) etc., but also in the names of tribes inhabiting the southern regions of North America.

[pg 236]
Assuming, therefore, upon convincing and substantial evidence which will be further corroborated, that the "Tablet of the Cross" represents a tree, the symbol of tribal life, the next step is to interpret the bird perched upon it and generally acknowledged to be a quetzal (pronounced kay-tzal) as the totem of the tribe, which also probably expresses its name. The tree is represented as associated with serpent symbolism and as growing from a vase = ho-och placed on a monstrous head = ho-ol, the idea conveyed being that it flourished in the centre or middle, while the head signifies, as has been shown, the capital and also the chief. On the vase is carved a symbol to which I draw special attention, as it recurs on the right hand end of the carved band below the tree, is met with in Maya calculiform glyphs and is also frequently employed in ancient Mexico. It represents the corolla of a four-petalled flower which obviously symbolized the Four-in-One, which permeated the native civilizations.

The word for "flower" being nic in Maya and xochitl (pronounced hoochitl) in Nahuatl, it must be admitted that the symbol of a vase with a flower seems to afford an instance of a bilingual rebus, as the Maya hooch is identical in sound to the Nahuatl xoch-itl. Even without this, however, the meaning of the tree and serpent, the bird, the vase, the quadripartite flower, and the head, would have been generally and equally intelligible to native tribes, being familiar symbols constantly employed in metaphorical speech.

Mr. Maudslay has pointed out and illustrated in his work (Biologia, pl. 92, pt. x) that the side branches of the

“cross” simulate bearded serpents' heads, whilst their recurved upper jaws are covered with what resemble buds of flowers, seeds or beads. The Palenque “cross” is indeed characterized by being profusely decorated with “bead or seed-like ornaments and appendages” some of which resemble beads or seeds, figured in some instances, like those on the Copan swastika, the meaning of which seems supplied by the previously cited Zuñi text. It does not appear to be a mere matter of chance that the following Maya words, culled from the dictionaries, are so closely connected: yax-ché = a sort of ceiba tree, the emblem of celestial life of the Mayas; yax-chumil and yax-pa-ibe = adjectives primitive, original; adverb firstly, at the beginning; yaxil, verb = to make something new, to commence, begin; yaxil-tun = bead or pearl; yax-mehen-tzil = eldest son.

[pg 237]
According to this incontrovertible evidence we find that the sacred tree of life of the Mayas was designated by the word yax, signifying first, original, new, etc.; that the same root enters into the composition of the word for eldest son and finally for “bead.” The latter curious agreement is accentuated by the well-known fact that the Mexicans employed in metaphorical speech the word cuzcatl = bead made of some precious stone, to designate “father, mother, lord, captain, governor; those who are like a sheltering tree to the people” (Olmos, cap. VIII). A term of particular endearment for a son was “gold-bead” (teocuitla-cuzcatl). Olmos moreover records no less than eight metaphorical designations for a “Tree, or first father, origin of generation, lord or governor,” and appellations for twenty-nine “Relatives who issue from one stem or trunk.”

Collectively, the evidence set forth in the preceding pages identifies the image on the famous “Tablet of the Cross,” as a symbolical representation of the “Tree of Life of the Eldest Sons,” chiefs or nobility of a tribe, whose totemic bird was the quetzal.[67] Before completing the description

of this tablet, the analogous representation of a tree on the "Temple of the Cross 2" should be examined. This is generally known as the foliated Cross and like its counterpart it issues from a vase with a quadriform emblem, and a monstrous head. Its branches are composed of conventionalized maize plants on which human heads and faces occupy the places of the corn-cobs whilst their hanging hair simulates the tassels of the ripe corn. The maize-leaves are decorated with groups of seed-like beads amongst which distinct representations of maize seeds are discernible. These form, indeed, the leading motif of the seed decorations and indicate that the "appendages" to the groups of seed-like beads on the Copan swastika were but conventionalized maize-seeds. The branches of the maize-tree are surmounted by a conventionally ornamented head from which hangs a necklace of beads with a medallion consisting of a face surrounded by a beaded frame. Above the head the totemic quetzal bird is repeated under almost precisely the same form but in a [pg 238] reversed position. It is interesting to note that the Maya name for maize is ixim, which added to the ché = tree, yields ixim-ché, a word which actually occurs as the local name of the ancient capital of Guatemala, named "Iximché-tecpan." To this curious fact should be also added that "ix" is the prefix employed to designate the feminine gender and that Ix-chel is "the name of the Maya goddess of medicine and of child-birth."

An extremely interesting composite symbol is carved under the feet of the personage standing next to the "maize-tree," to the right of the spectator. It consists of the realistically carved large convolute sea-shell such as constituted the Mexican symbol of parturition. An almost grotesque human figure is represented as issuing from it and holding in its hand a maize plant which bends upwards and curves over the shell. Its leaves are drawn with maize-seeds on and amongst them, in the same conventional way that has been noticed on the central tree, and human heads again simulate the corn-cob. An

acquaintance with Mexican and Zuñi symbolism enables us to grasp the significance of this composite symbol which figuratively expresses the common birth and growth of the substance of plant and human life. The personage who stands over this symbol, facing the tree and the tail of the bird which surmounts it, holds a curiously decorated emblem in his hand, of which more anon. A small twig bearing three terminal leaves issues from his head. Behind him are 4 perpendicular columns with 17 glyphs in each; whilst a detached series, consisting of 13 smaller glyphs, is carved in front and above him.

At the opposite side of the tree, facing the almost unrecognizable head of the bird, a personage stands on an elaborately carved monstrous head, covered with a maize-plant. He is wearing a necklace and medallion like that on the tree itself. His head is surmounted by a high cap bearing a conventionalized flower-bud. A belt in the form of a serpent with open jaws, encircles his waist and he is holding aloft in his hands, a miniature, human, seated figure with folded arms, a bead necklace and an indescribable head-dress and masked face. His attitude indicates that, by offering this figure, he is performing some rite. On the other hand, a conventionalized sign for water seems to be issuing from the bird's head and descending upon the figure whilst puffs of breath and seeds issuing from its beak seem to be directed towards the tiny effigy of a human being.

[pg 239]
Reverting now to the “Tablet of the Cross I,” we find precisely analogous figures at its sides, only in reversed positions. To the right of the spectator stands the priest with a tall hat surmounted by the flower-bud, somewhat resembling a fleur-de-lis. The small human figure he is offering is recumbent and is being held out so as to come in contact with the pendant issuing from the bird's head.

The figure on the opposite side, with the head-dress and

twig with three leaves, is facing the central tree and holding a staff which, in this case although combined with other emblems, clearly appears to represent a young maize plant, with its roots below, and growing shoot with leaves above. As on the other tablets there are columns of glyphs behind each figure, whilst the personage holding the maize-plant is associated with a detached group, in two portions, consisting of 10 + 4 glyphs, and is standing on a large glyph associated with a numeral.

Having thus cursorily brought out some special points observable on both “Cross Tablets,” let us now glance at the tablet in the “Temple of the Sun.” On this we again find columns of glyphs and a personage at each side of a central figure. The same peculiarities and differences of costume are observable here as on the preceding tablets; but each personage holds a small, grotesque human figure with a long nose, and each stands on the back of a human being, that to the left of the spectator especially appearing to be a conquered enemy.[68]

Two over-burdened-looking seated figures, one of which is clothed in a spotted ocelot's skin, occupy the centre and support, on their bowed shoulders, a curious emblem terminating in open serpents' jaws. The large head (of a jaguar?) is in the centre and above this issue two puffs of breath with seeds, forming a double recurved figure so identical in shape and detail to a single branch of the Copan swastika that one might imagine it was carved by the same hand. On this tablet, instead of a tree, the centre is occupied by a shield, exhibiting a face and having tufts of feathers at its four rounded [pg 240] corners. This rests on two crossed lances with decorated handles surmounted by large points.

In this connection it is interesting and important to note that, in ancient Mexico, lands conquered and acquired in warfare were termed “mil chimalli,” literally, “field of the shield,” a metaphor which was also probably known to the Mayas.

Glancing next at the "Temple of Inscriptions," the fourth of the large detached temples of Palenque, we find that its interior is characterized by the most extensive mural inscriptions found in America, consisting entirely of hieroglyphics. Four exterior free pillars, however, "contain on their outer faces, modelled in bold relief, life-sized figures of women holding children in their arms" (Holmes).

Having brought out the particular point that, in each of the four temples described, adults are represented in the act of carrying or offering children or diminutive and strangely grotesque conventionalized effigies of human beings, I would note that the only analogous grotesque figures with long noses, I know of, are those on the sceptres held in the hand by the seated personage on the "Great Turtle" and by the individual carved on Stela E at Quirigua. It is noteworthy that the left hand of the latter personage holds a shield displaying a face and recalling that carved on the tablet of the Palenque "Temple of the Sun." Analogous grotesque figures also surround the personage carved on Stela F at Copan. These facts indicate that the Quirigua "Great Turtle," the stelæ at Quirigua and Copan and the Palenque tablets, were erected by people sharing the same cult and ritual observance, one feature of which was the carrying of diminutive human effigies, with exaggerated and almost grotesque noses.

A clue to the significance of this rite is supplied by the text of the Codex Telleriano-Remensis (Kingsborough, vol. v, p. 134) relating to the Mexican 20-day period Iz-calli, the last of the year. "It was the feast of Fire, because at this season the trees became warmed and began to bud. In it was celebrated the festival Pil-quixtia, meaning 'human life or nature which had always escaped destruction although the world itself had been destroyed several times.' "

"Izcalli signifies as much as liveliness, and in this 20-day

period all mothers lifted their children by their heads and holding them [pg 241] aloft called out, Izcalli, Izcalli, as though they said 'aviva' = live, live.... This was the period of production ... thanks were rendered to the nature which is the cause of the production.... Every four years they feasted for 8 days in memory of the three times that the world was destroyed. They name this 'four times Lord,' because this escaped destruction, although all was destroyed. They designated the festival as that of 'renovation' and said that when it and the fast came to an end the bodies of men became like those of children. Therefore, in order to figure [or symbolize] this festival, adults led certain children by the hand, in the sacred dance."

Slightly incoherent though this text may be, it furnishes a most valuable supplement to the descriptions of the same festival by other authorities. As this is exhaustively treated in my forthcoming text to the "Life of the Indians " in which all available authorities are quoted and collated, I shall confine myself here to some facts which bear a special relation to the subject of this paper. In Mexico another name for the festival period Izcalli, was Xilomaniztli = the birth or sprouting of the young maize. According to Duran, izcalli signified "the creating or bringing up" and in order to make the growth of children coincide with that of the young maize, parents, during this period, stretched the limbs and every part of the bodies of all infants of tender age.

Another observance which was held at this time was in anticipation of the New Year and consisted in the raising and planting of high poles or wands with branches, in the courtyards of the temples and in the streets. These typified the new life; "the budding and rejoicing of the trees." Another New Year custom was that of carrying budding branches or young shoots of maize in the hand, on a particular day named Xiuh-Tzitzquilo, literally, "the taking of the year in one's hands." The explanation of this metaphor is given by Duran who states that "the natives

consider that the year, with its months and days, is like a branch with its twigs and leaves."

A passing mention must be moreover made of the two movable festivals celebrated by the Mexicans, in which they scattered broken egg-shells on the roads and streets as a rite of thanksgiving for "the life bestowed upon the chicken in the shell" by the divine power. In the image of this festival contained in the "Life of the Indians," the egg-shells are represented at the foot of a [pg 242] tree bearing seven blossoms; the seated divinity in front of this wears a bird-mask and carries a staff with a heart in his hand. These festivals were named respectively, seven flowers and one flower.

Briefly summarizing the foregoing data, we find it proven that, deeply impressed with the wonderful renewal of life in nature, the ancient Mexicans rendered periodical thanksgiving for this in its various forms. The budding tree, the young shoots of the maize, all seedlings, the broken egg-shells from which the young chickens had emerged, were adopted as emblems of the renewal of life. The child was likewise looked upon as the renewal of the human race and every four years a thanksgiving festival "of renovation" was solemnized in which children took a special part. In my work on the Calendar system I shall show how far this festival "of new birth" coincided with astronomical phenomena. From Landa we learn that in the Maya months "Chen or Yax," on a day designated by the priest, a festival was celebrated named Ocna: "the renovation of the temple in honour of the Chacs, the gods of the maize-fields." This was held each year ... all idols and incense-burners were renewed and if necessary the building was rebuilt or renovated and, "in commemoration of this, an inscription in the native characters was fixed to the walls."

Referring to other chapters of Landa's work we find that, as in Mexico, the Yucatec children received a "child's name" at birth which was changed when, having accomplished the third year, they were "reborn" and received a new name, *i. e.* the combined name of their father and mother. On attaining puberty they obtained an individual name which they preserved during life-time. A knowledge of the social organization of these people enables one to grasp the full importance and significance of these changes of name, which were accompanied by ritual observances and betokened the enrolment of the children into their respective classes and sub-classes and a consequent reorganization of certain departments of the

State. It appears that in ancient times the ceremonial of the "new birth," or re-naming of the children, took place every four years, simultaneously with the thanksgiving feast for the "continuation of the human race."

A careful analysis of native words and metaphors tends to show, moreover, that the children born within each four-year-period were collectively regarded as "a fresh growth upon the tribal tree." In [pg 243] Mexico the word for leaf = atlapalli, was employed as a metaphor for the lower class, whilst in Peru the male and female descendants of the Incas were represented by gold and silver fruits upon the trees of their male and female ancestry. The collection of such scattered scraps of testimony enables us to reconstruct the drift of native thought and realize that the registration of individuals was associated with the conception of a tribal tree bearing four branches and covered with blossoms, fruits and leaves which faded and fell but were replaced by fresh growths.

We learn from Duran that so careful a record was kept of the population, by the Mexican priesthood, "that not even a newborn babe could escape detection." The reason for this strict vigilance is clear, for the welfare of the community and the harmonious working of the complex machinery of state depended upon the constant renewal of vacancies caused by deaths in each department of industry and government.

After this excursion into the realm of native thought let us now return to the Palenque tablets, placed in detached temples which approximately face the four cardinal points. On the tablet of the "Temple of the Cross" we have a tribal tree with symbols of the Middle and of the Four Quarters and of duality. A priest with a flower on his head presents a diminutive human figure to the totemic bird perched on the tree. Another, with a leafy branch on his head-dress, holds a conventional sceptre simulating a young growing shoot of maize. Behind each figure are rows of glyphs and in the upper corner to the left of the

spectator is the septenary series headed by the initial-sign.

In the “Temple of Cross II” we have a variant of the identical representation in which the maize plant and the sea shell are prominent. If I may hazard a suggestion of the meaning of these two tablets, I should say that they appear to be tribal registers most probably relating to the increase and decrease of the male and female population in all divisions and classes, during a fixed period of time. Both seem to commemorate the “renovation” or “new growth” of the tribal tree in a mode which would have been as intelligible to a Mexican, for instance, as to a Maya. The fact that the “Temple of the Sun” and that of the “Inscriptions” obviously held analogous registers, points to the alternative possibilities (1) that each temple was destined to preserve [pg 244] the register of the population and social organization, etc., of one of the four quarters of the capital and state, according to years; (2) that the trees in the “Cross temples” figured the male and female lineages of the ruling caste, whilst the tablet in the “Temple of the Sun” recorded the numbers of conquered people reduced to slavery and the “Temple of Inscriptions” preserved the register of female children or of vassals; (3) that each of the four temples preserved a complete register of the entire state and had been erected consecutively at the conclusion or beginning of eras, the difference observable in the central motif conveying the salient feature or event marking each special epoch and recording, according to years, the organization of the state during its course.

In the face of this possibility as well as the probability that each glyph was painted and implied a year, it is interesting to note that, including the initial glyph, the “Tablet of the Cross” exhibits 108 glyphs on the side to the left and 124 on the side to the right of the spectator = a total of 232; the “Tablet of the Cross II” exhibits 76 to the left and 83 to the right = 159; and that in the “Temple of the Sun,” 70 to the left, 159 to the right

and 12 in the middle = 241. The "Temple of Inscriptions" exhibits the initial series (see Maudslay, Biologia, pt. X, pl. 82) and entire walls covered with glyphs, some of which, as on the tablets enumerated above, are accompanied by numerals whilst others are not.

In a future publication I shall submit illustrations of these monuments with the ripened results of my investigations concerning them. For my present purpose it suffices to have produced substantial proofs that the ancient dwellers in Palenque employed the same metaphors, the same cursive method of registration and held the same fundamental principles of organization that have been shown to underlie the civilizations of Peru, Guatemala, Yucatan, and Mexico and still survive amongst the Zuñis and more northern tribes. It is obvious that, at Palenque and the neighboring Menché and Ixkun, an integral civilization, based on these principles, had existed for an incalculable length of time. Strangely enough it seems to form so close a link between Maya and Mexican culture that it almost seems justifiable to surmise that both Maya and Nahuatl languages were spoken in these ancient ruined cities.

Proceeding mentally northwards we will not linger at the ruins of Mitla, the name of which seems to indicate that it had lain to [pg 245] the north of a great ancient centre of government, since Mictlan in Nahuatl and Mitnal in Maya both designate the region of the underworld and the north.

Reaching the ultimate stage of our mental exploration of the American Continent we now transport ourselves to the Valley of Mexico and, on the site of the ancient capital of Montezuma and his coadjutor, face the three great monolithic monuments which are popularly known as the Calendar Stone, the Stone of Tizoc and Huitzilopochtli. In 1886, at the Buffalo Meeting of the American Association for the Advancement of Science, I presented a "Preliminary Note of an Analysis of the

Mexican Codices and Graven Inscriptions," in which the opinion was advanced that the "Calendar Stone" was identical with the "circular elaborately carved tablets which, according to Padre Duran, were erected in each market-place in ancient Mexico, and were held in great veneration. They were frequently consulted and by them the market-days were regulated."

"All writers concur in stating that the market was held on each fifth day, when all adults were obliged by law to resort to the appointed market-place. The entire produce and manufacture of the state were brought there, even from great distances, severe penalties being incurred by those who bartered the products of agriculture or manual labor on the highway or elsewhere. On the broad, straight, cemented roads which led from the four quarters to the heart of the capital, 'resting places' for the wayfarers and carriers were provided at fixed intervals. The enormous concourse of people, the variety of produce exhibited in the market-places of Montezuma's capital filled the conquerors with wonder and admiration. From Cortés, Bernal Diaz, Sahagun and others we learn that the market was a special charge of the supreme chief of Mexico; that appointed officers presided in state over it whilst others moved among the throng superintending the traffic. Standard measures were kept and rigorous punishment awaited those who sold by false measure or bartered stolen property."

After making the preceding statements I advanced the opinion "that the periodical market-day was the most important regulator of the Mexican social organization and that the monolith generally known as the Calendar-stone was the Market-stone of the City of Mexico. It bears the record of fixed market days; and I venture to suggest that from these the formation of the Mexican Calendar system originated. The stone shows the existence of communal [pg 246] property and of an equal division of general contributions into certain portions...."

I concluded the above communication with the statement: “Before publishing my final results I shall submit them to a searching and prolonged investigation. An examination of the originals of many of the Codices reproduced in Lord Kingsborough's ‘Mexican Antiquities’ will be necessary to determine important points and during the forthcoming year my line of researches will be in this direction.” In my youthful enthusiasm and inexperience I little foresaw, when I wrote the above sentences, that I should spend thirteen years in diligent research before I felt ready to express my ripened conclusions concerning the Calendar-stone. Although the results I am about to submit are final they are necessarily incomplete, their full presentation with adequate illustrations being included in my forthcoming special work on the Social and Calendaric system of ancient America. For the present I have limited myself to the reproduction of the outline drawing of the monolith made by the late Dionysio Abadiano of Mexico and published in his somewhat fanciful work on this subject.[69] No one, however, had studied the Calendar-stone more carefully than he; and, besides being extremely accurate in outline, his drawing has the merit of including the eight deep circular holes which were drilled at regular intervals outside of the worked border of the stone as well as the groups of smaller circular and shallow depressions which Señor Abadiano discovered on the outer unworked portion of the monolithic block. Without discussing here the question whether the eight drill holes were intended to support a species of gnomon, as Leon y Gama first maintained, or merely served for the guidance of those who carved this marvel of accurate workmanship and symmetrical design, I shall merely point out that, although the group of circular depressions in the block, in the lower corner to the left of the spectator, offers a certain resemblance to the form of the constellation of Ursa Major, this may be merely the result of chance.

Facing the problem of the meaning and purpose of the “Calendar-stone,” after thirteen years of assiduous study, I

find that the interpretation I suggested in 1886, is substantially strengthened and corroborated by freshly accumulated evidence. The difference is that I now lay less stress upon the phonetic elements and [pg 247] values of the symbols, although, as I shall set forth in the special publication alluded to, no study of the monument can be considered complete unless these be carefully analyzed and understood. The one great stride in advance that I think I have made is the recognition that the monolith is an image of the Great Plan or Scheme of Organization which has been expounded in the preceding pages and which permeated every branch of native thought.

The monument represents the high-water mark reached in the evolution of a set of ideas, which were suggested to primitive man by long-continued observation of the phenomena of Nature and by the momentous recognition of the

> “northern star,
>
> Of whose true-fixed, and resting quality,
> There is no fellow in the firmament.
> The skies are painted with unnumber'd sparks,
> They are all fire, and every one doth shine;
> But there's but one in all doth hold his place.”[70]

This inscribed tablet, which constitutes one of the most important documents in the history of the human race, is as clearly an image of the nocturnal heaven as it is of a vast terrestrial state which once existed in the valley of Mexico, and had been established as a reproduction upon earth of the harmonious order and fixed laws which apparently governed the heavens.

The monument exposes these laws, the dominion of which probably extended throughout the American Continent, and still faintly survive in some existing

aboriginal communities. It not only sets forth the organization of state government and the subdivision of the people into classes bearing a fixed relation to each other, but also serves as a chart of the territory of the State, its capital and its four provinces, and minor topographical divisions. Finally, it reveals that the progress of time, the succession of days, years and epochs, *i. e.* the Calendar, was conceived as a reproduction of the wheel of sinistral revolution described by the circumpolar constellations around Polaris. The Septentriones served as an indicator, composed of stars, the motive power of which emanated from the central luminary. This marked not only the march of time each night, but also the progress of the season by the four contrapositions apparent in the course of a year, if observed at a fixed hour of the night.

[pg 248]
The twenty familiar day and year signs of the native calendar are carved on a band which encircles the central figure on the stone. I am now in a position to prove satisfactorily that these signs were not merely calendaric and that they equally designated four principal and $4 \times 4 = 16$ minor groups of stars; four chiefs and $4 \times 4 = 16$ minor tribal groups or divisions of men.

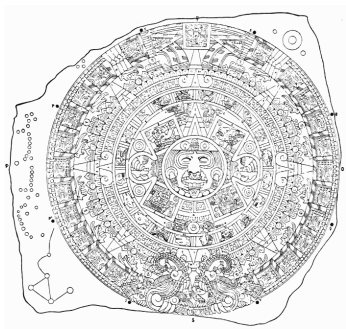


Figure 56.

Merely a few indications will suffice to prove how completely and unmistakably the symmetrical design on the monolith (fig. 56) expounds the great plan which had impressed itself so deeply and indelibly upon the minds of the native philosophers and influenced all their thoughts and speculations.

The head and face in the middle of the monument conveys the [pg 249] idea of duality, being masked, *i. e.* doubled-faced and bearing the number 2 carved on its forehead. It conveyed the conception of a divine power who ruled heaven and earth from a changeless and fixed centre in the heaven; expressed the dual government of the earth by twin-rulers who dwelt in a central capital. It typified light and the heaven itself with its two eyes; the sun and moon and darkness and the earth by the mouth; whilst the symbols for breath issuing from both nostrils and the tongue protruding from the mouth denoted the power of speech, which was so indissolubly connected with the idea of chieftainship by the Mexicans that a title for the chief was "the Speaker." The central head likewise denoted a "complete count" = one man, and was expressive of a great era of time, embodying twenty epochs.

As a synopsis of the whole, the following titles recorded in the chronicles would be applicable to the central ruler, celestial or terrestrial: the two lord, the divine twin; the two-lord and two lady; the quadruple lord, "He who looks in four directions;" the lord of the thirteen powers; the one lord, *i. e.* embodying a complete count = 20; the lord of five (*i. e.* of the Middle and Four Quarters); of seven, *i. e.* of the Middle, Above, Below, and Four Quarters; of thirteen, *i. e.* of the duplication or male and female or celestial and terrestrial divisions of the Above, Below and Four Quarters plus the Middle.

Surrounding the central head are four square divisions arranged in two separate parts, each of which includes what appears to be in one case the right, and in the other

the left, conventionalized claw (forepaw?) of an animal armed with hooked nails, such as Mictlantecuhtli, the lord of the North, is represented with.

The square compartments contain symbols of the four elements so disposed that air and water are appropriately associated with the hand to the right (=male region) and fire and earth with the hand to the left side (=the female region) of the central head. But this is not all, for another carefully devised relation between the elements likewise appears upon careful examination. In the middle, carved above the central face and between the symbols for air and fire, is the conventionalized "ray of the Sun," or pyramid which typifies "that which ascends or is above" the upper elements and the Above. As its opposite we find below, situated between the symbols of earth and water, a ring with a concentric circle representing the drop of water="that which [pg 250] descends." As the Moon was inseparably associated with water and the Below, it is doubtlessly included in the symbolism.

One more point which will receive due attention in my monograph remains to be briefly noticed. As the symbol for air=east is situated to the right of the symbol for north, and the earth=west is to its left, it is clear that the central face is conceived as looking down from above upon the spectator. It is only when the stone is considered as placed face downward that the symbols assume their proper positions as regards the cardinal points. This reversal, which is the natural result of the association of the east and south with the right hand of the middle personage, suggests that the monolith may have been originally designed to be let into the flat or slanting ceiling of a building. As a parallel instance I will state that, some years ago, Señor Troncoso pointed out to me a fact he had noticed, namely, that the relative positions of the cardinal points on the Féjérvary chart were reversed and that it must have been intended to be looked at from underneath.

Each of the element symbols is accompanied by four numerals placed in the angles of the squares, with one exception, where one numeral was obviously dislodged from its proper position by an encroaching emblematic ornament. The positions of these numerals and of their square enclosures are what recalled to my mind the opposite positions assumed by Ursa Major in its annual rotation around the axis of the heaven. Just as the central face primarily represented Polaris, so these squares figured the four contrapositions of the great constellation. The peculiar, almost cross-shaped figure resulting from the union and association of the symbols of the Centre, and of the Above, Below, Right, Left = Four Quarters, is a well-known conventional sign, generally known as a "nahui-ollin." The accepted translation of this name is "four movements," from olinia, verb = to move, and no name could be more appropriate for a symbol which, to my idea, like the swastika, actually represents the movement of the most conspicuous of septentrional constellations to four opposite places.

At the same time, as the nahui-ollin on the stone encloses symbols of the four elements, the union of which was believed by the native philosophers to be essential for the production and maintenance of life, I was led to observe also the fact that the words for life and heart, and the verbs to be alive, to live, to resuscitate, etc., are all derivatives from the root yuli, or yoli, which [pg 251] undoubtedly has a common origin with the verb olinia = to move. It therefore not only appears that, to the native mind, motion and life were indissolubly linked together, but that the name nahui-ollin must have signified four-fold life as well as movement. It likewise typified the four sides of the great pyramid which formed the nucleus of the capital and was crowned by two temples, respectively occupied by symbolical images of the "Divine Twins." It is impossible not to realize that, in ancient Mexico, the pyramid constituted an image of the entire system.

Each of its sides obviously pertained to one of the four regions and was probably painted with its symbolical color.[71] It seems safe to assume that the pyramid was originally erected by the coöperation of people from the four quarters of the capital and state and was possibly added to at fixed intervals so that it represented not only the constitution of the commonwealth, but testified to its age and growth. The widely-prevalent primitive custom that each individual should add one or more stones to a heap of stones, as an individual contribution, may have been carried out in the building of pyramids, the origin of which will be discussed further on.

Although it is almost superfluous to do so, as by this time the set of associated ideas must be familiar to the reader, I shall briefly summarize some of the chief four-fold division or organization of which the nahui-ollin was the graphic symbol. It represented:

1. The four elements or substances and kinds of life.

2. The four regions of the heaven, each composed, in turn, of four sub-regions.

3. The four provinces of the state, each containing four districts.

4. The four quarters of the capital, each of which had four wards.

[pg 252]
Like the nahui-ollin the pyramid was an image or embodiment of the fundamental all-pervading principle. Both therefore equally expressed further meanings which I shall proceed to enumerate.

5. Four stars and also four star-groups or planets which seem to have been associated with the cardinal points and are indicated by four discs exhibiting two concentric circles and four glyphs placed around them. Although at a disadvantage, not being able to substantiate my statement

here, I shall mention that, amongst the above, the Pleiades and the planets Venus and Jupiter doubtlessly figure, the latter as two evening and two morning stars.

6. The human lords of the four regions who respectively governed the four divisions of the population, who were classified as the Fire, Air, Water and Earth people, the identical classification being applied in turn to each class and so on *ad infinitum*.

7. Rotation or a movement encircling the four quarters imagined as "quadruple motion." This was not confined to the Septentriones, for the ancient Mexican astronomers had recognized what they termed the "four movements of the Sun"—namely, its apparent rising in the east and progress to the north; and setting in the west and progress to the south. According to Leon y Gama, the first to describe the stone in 1832, the central "nahui ollin" portrayed the "four movements of the sun" and recorded the solstices and equinoxes. His opinion has since been shared by other writers, amongst whom I cite Señor Troncoso. According to Sir Norman Lockyer, moreover, the symbol does correctly and appropriately figure the annual course of the sun. It must be admitted that the invention of a figurative symbol which not only records the annual rotation of the circumpolar star-groups but also the annual apparent course of the sun is an achievement which has never been surpassed in primitive astronomy and merits admiration and recognition. The record of the periodical movements of the heavenly bodies, constitutes, at the same time naturally a register of the four seasons.

8. Simultaneously with the division of the year into four equal parts, the ollin (and pyramid) typified the division of the 20-day period into four quarters as well as the four 13 year periods which constituted the epoch of fifty-two years. As the Calendar periods will be discussed in my monograph on the subject, I shall only mention here a fact showing how completely the quadruplicate idea had

influenced native speculation. The Mexicans believed that [pg 253] four great eras had passed since the creation of the world and designated these as the earth, air, fire and water eras. They believed that, although humanity had always escaped utter annihilation, the world had been almost completely destroyed by three of the elements in succession at the end of three of these eras. At the time of the Conquest, the Mexicans supposed themselves to be living in a fourth age which was doomed to perish by fire.

9. According to the distinguished Mexican scholar Señor Alfredo Chavero, the symbols in the nahui-ollin commemorated the four epochs of the world's history and I readily accept this as one of the many significations of the quadruplicate figure.

Leaving the nahui-ollin for the present, let us next consider the band, with compartments, which encloses it and exhibits the twenty symbols hitherto only known as calendaric signs,—four of which were year- as well as day-signs, whilst sixteen were day-signs only. Their relative positions show that they were intended to be read from right to left.

A profusion of evidence, however, exists showing that individuals bore the day-names as personal appellations, not only in Mexico but also in Central America. Amongst the Quichés for instance, members of the “Royal house of Cavek” are designated in the Popol Vuh, as three deer, nine dog, etc.

It thus follows that the twenty signs were not merely names of years and days, but also designated the tribes and clans. The element-symbols which marked every fifth day and the years and constitute the major signs, likewise were the names of the four great divisions of the people, and of their respective chieftains. On the other hand the $4 \times 4 = 16$ minor signs, applied not only to days but to the $4 \times 4 = 16$ clans. At the same time the element names conveyed in a general way the occupation of each of the four divisions of people as well as their places of abode in

reference to the capital. Accordingly, the earth people would specially attend to agriculture, mining, the manufacture of pottery, etc.; water people to irrigation, the furnishing of drinks, fishing, etc.; the fire people to all occupations which had to do with fire: the procuring of combustibles for fire and lighting, cooking, the working in metals, etc.

As on the stone, the sign calli = house is in juxtaposition to the symbol for air, it may be inferred that the air people were the builders, the masons, the artificers, the Nahuatl name for which [pg 254] was "toltecatl." As the air symbol occupies the place of highest honor in reference to the central face, namely, above the right hand, it is evident that the builders, or "toltecas," were the caste which enjoyed the highest consideration. Their totem was the bird, the inhabitant of the air. The second rank in honor was held by the fire people placed to the left, above. Their totem was the ocelot.

Without going further into details for the present, I merely point out that the identical division of the members of each community and association with the elements, etc., was carried out throughout the state. This method clearly established the relation and also determined the geographical position of each class of people in reference to the whole.

The carved band on the Calendar-stone, with its twenty signs, determined once and for all time the exact position to be taken up in all public assemblages, in councils, sacred dances, and likewise controlled the exposition of the products of the land in the great market-place. What is more: each division of the people, by reason of its indissoluble union to one element and one region, also had its own season during which it led in ceremonial observances. So skilfully was the lunar ceremonial or religious year devised that each sign, without any distinction, ruled a period of thirteen days. At the same time the period fell into four divisions headed by the four

principal or element signs.

In the solar or civil year, each sign had its day, but as the computation of years passed by, each sign in due rotation ruled during one year. It was only when each sign had had an equal rule that the cycle completed itself, and, in turn, became a part of a greater cycle of time. To realize the marvellous ingenuity with which the rotation of days and consequently the working of the entire machinery of state was carried on, it is necessary to have before one's eyes, a series of reconstructive tables, such as I have prepared for my paper on the subject. For the present, however, I trust that some idea of the harmonious organization of the state may have been conveyed to the reader.

One important feature remains for consideration. As already mentioned, one of the four annual midnight positions of the Bear star-groups, and presumably a “royal star,” pertained to each cardinal-point and consequently to each of the four divisions of people. To this statement, which can be supported by substantial evidence, I must add that each of the sixteen minor signs likewise [pg 255] designated constellations, of which there were thus four in each region of the heaven. The twenty familiar day-signs thus actually constituted also the native zodiac. As the region to which each constellation pertains is clearly designated by the cardinal-point signs, their identification is merely a matter of time. Since ten of the signs represent animals, and these were the clan totems, it is easy to realize how animal forms, composed of stars, came to be traced in the heavens.

Deferring further discussion of the native zodiac I will but point out what an intimate relation was thus established and maintained between star-groups and human beings; and how the periodical rotation and stations of the celestial bodies actually guided or, at all events, coincided with the periods of human activity in various branches.

I am not, as yet, prepared to formulate a final opinion on

the meaning of the narrow band that surrounds the zodiacal belt, which is at the same time the list of years and days and of tribes and clans, but shall merely note that it exhibits four large and four lesser rays which designate the quarters and half-quarters of the whole. A few words concerning the symbolism of these rays should find place here. In Nahuatl the ray was named "tona-mitl," literally "the shining arrow," "shaft of light." Ixtlilxochitl tells us that it was an ancient custom of his people on taking possession of new territory "to shoot with utmost force four arrows, in the directions of the four regions of the world."[72] This interesting passage shows us that the rays, *i. e.* arrows of light, carved on the stone, conveyed the idea of possession of the four regions and four sub-regions by the central power.

Returning to an examination of the concentric band to which the rays are attached: It exhibits also 4×10 groups of five dots, two of which groups are almost concealed by star-symbols on the recurved open jaws of the serpents' heads which meet at the bottom of the stone. Above this band and placed exactly between the larger and lesser rays are single compartments with five-dot groups. It has been interesting to detect the reason why two five-dot groups were carved, as I have already pointed out, immediately under the central head. They evidently supply the missing groups whose places are filled up by the recurved upper jaws of the serpents, [pg 256] heads at the bottom of the monolith. From the care taken to preserve a visible record of these two groups, it is obvious that a special importance was attached to the recording of eight five-dot groups besides the forty in the band, making a total of $4 \times 12 = 48$ groups, or $10 + 2 = 12$ to each quarter.

As the Mexican name for market was macuil-tianquiztli, literally the "Five (day) market" and the Maya word for capital was homonymous with five = ho, it is evident that these five dot groups would have conveyed the idea of "market," market-day and possibly market-town, to a

Mexican. To a Maya-speaking people they would have appeared to express practically the same thought, since all capitals, large or small, were market-places and absorbed and redistributed the product of quadruple provinces within the radius of its jurisdiction. The inference that the five-dot groups may have served as a topographical register of the larger and minor capitals existing in each quarter of the state, is substantiated by more evidence than can be produced here. I have moreover found indications that this belt may have served as a sort of moon-calendar which was also an attempt at an adjustment of lunar to solar periods.[73] Before, however, an estimate can be made [pg 257] of the full meaning of this belt formed by the two great serpents which encircle the entire monument, more time and labor will have to be expended.

One point about the twin serpents is clear; they are represented as springing from a square enclosing the symbol Acatl accompanied by 13 which has been generally interpreted as a calendar date. It seems to me to be more deeply significant than a mere date, especially as it appears to designate the point of departure for the progressive movement of the two serpents whose open jaws enclose human heads in profile which together form one face. The upper jaws end in two recurved appendages, each exhibiting seven star symbols. As these obviously typify night or darkness and the open jaws seem to threaten to absorb or engulf the ray of the sun pointing downwards, it appears as though these typified a disappearance of light into the underworld of darkness and destruction.

The symbolical surroundings of the downward ray are in striking contrast to its opposite, the upward ray, which reaches to the 13 Acatl sign and points to what appears to be the place of origin or birth of the twin serpents. It certainly seems that this all-embracing and enfolding twin pair are designed to typify the dual forces of nature under a form which would also express quadruplication. By

what must be termed a stroke of genius the designer of the monolith chose to represent the forms of two serpents, relying upon the fact that Nahuatl-speaking people would see in each serpent (=coatl) a twin (=coatl). Did he not also realize that to a Maya each serpent (=can) would mean 4 (=can) and that the pair would appear to embody or express the numerals 4 and also 8?

It is noteworthy that each serpent is represented with one claw and that these two added to those contained in the central nahui-ollin complete the four-limbed figure which was essentially the image of a complete count=the state, the nation, the era, etc. In this monument, as elsewhere, it is possible to follow the development of the symbolism expressed by two heads which form but one, [pg 258] twin-bodies which mean four and of four limbs which represent the digital count=20.

Under different aspects the same theme repeats itself again and again upon the stone, which proves that the master minds who planned and wrought it destined it to be the image of a plan based on the idea of a central and yet all-embracing, dual, yet quadruple force or power.

The preceding rapid sketch I have given of the wide-reaching significance of this remarkable monument will, I hope, be found to amply support and corroborate the view I advanced in 1886, when I pointed out that the "Calendar-stone" answered to the description given by Duran, of the "circular elaborately carved tablets which were kept in each market-place and were held in great veneration." I trust that it is now clear why it should have been frequently consulted and why the market-days were regulated according to the carved indications upon the surface. Engraved upon it were the Great Plan and its laws of organization and rotation. It clearly determined, once and for all, the sequence of the days; the relation of all classes of the population to each other and to the whole, and set forth not only the place each group should

occupy in the market-place, but also the product or industry with which it was associated and the periods when its contributions to the commonwealth should be forthcoming in regular rotation. The stone was therefore not only the tablet but the wheel of the law of the State and it can be conjectured that its full interpretation was more or less beyond the capacity of all but an initiated minority, consisting of the elders, chiefs and priests.

Postponing for the present further discussion of this, the most precious and remarkable monument which has ever been unearthed on the American Continent, let us briefly bestow attention upon the two other monoliths which may be said to be its companions and obviously belong to the same period and civilization. In 1886, in the preliminary note cited above, I advanced the view that the first of these, generally known as the “Sacrificial stone,” was a “law-stone of a similar nature [to the Calendar-stone] which recorded, however, the periodical collection of certain tributes paid by subjugated tribes and others whose obligation it was to contribute to the commonwealth of Mexico.” I pointed out that the “frieze around the stone consists of groups, placed at intervals, of the flint-knives (tecpatl) with conventionally carved teeth (tlantli) [pg 259] giving in combination the word ‘tecpatlantli.’ This occurs in Sahagun's Historia, as the name given to the ‘lands of the tecpan or palace,’ and in one of the native works I find designated the four channels into which the produce of these lands was diverted.” I likewise noted that “the periods indicated on it differ from those on the Calendar-stone,” which might more appropriately be designated as the ancient Mexican wheel of the law or of the Great Universal Plan.

Thirteen years of painstaking research have only served to strengthen me in my interpretation of the “Sacrificial-stone.” The frieze around it exhibits sixteen groups, each consisting of the repeated representation of a warrior characterized by having one foot only. In each case he is figured as seizing by the hair a different individual, who

bows his head and offers the weapon he holds in his right hand to his victor. Amongst the sixteen subjugated personages are two women and above each are hieroglyphs expressing the names of well-known localities, some of which are mentioned in native chronicles as having been conquered in historical times by Mexican rulers.

In my account of the Plan of the Ancient City of Mexico, I shall illustrate these hieroglyphs, locate the places to which they refer and further discuss this monument. Meanwhile I shall but state that it undoubtedly belongs to the same category of monuments as the tablets in the "Temple of the Sun" at Palenque; the bas-relief at Ixkun and that in the house of the "Tennis-court" at Chichen-Itza where warriors in a procession render homage to a seated personage, by presenting their spear-throwers to him in precisely the same manner as shown on the Mexican Tribute-Stone.

The upper surface of this exhibits the same division into eight parts, marked by four large and four smaller rays, pointing to the quarters and half-quarters. Observation shows that of the sixteen localities four were assigned to each quarter and it is evident that the monument determined the time and the order in which the tribute for each was paid and collected at the capital. The one-footed man again graphically symbolizes axial rotation and conveys the idea of a central ruler who in turn seizes and exerts control upon 4×4 tribal chiefs. The monument establishes, moreover, the interesting fact that amongst the subjugated communities were two gynocracies, represented by women who, instead of spear-throwers, present their weaving shuttle to the victor.

[pg 260]
We shall next consider a monument whose uncouth and ugly form embodies a deep and nobly planned conception of the "divine twin," or "divine Four," that so completely dominated the minds of the native philosophers.

Let us now carefully examine the monolith now preserved in the National Museum of Mexico (fig. 57). Leon y Gama, having observed that what appeared to be the foundation of the statue was carved and that massive projections existed under its so-called arms, logically concluded that the original design had been to support the figure from the sides, so that its base was lifted from the ground and the figure upon it exposed to view from underneath. His inference is borne out by the carving on the base which belongs to the same category as the image of Mictlan-tecuhtli, and represents a semi-human body, of quadriform shape soaring downward.

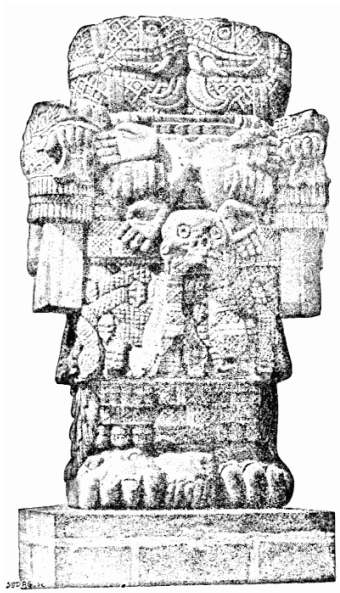


Figure 57.

The centre (fig. 51) exhibits on a square the five-dot figure, and the square, in turn, is enclosed in a circle; the whole symbolism relating to the now well-worn theme of the centre and four quarters and the union of the earth = the square and the heaven = the circle. It clearly exhibits a skull attached to each limb, typifying the four quarters or the clans and their chiefs, whilst the hands hold the larger heads, emblematic of supreme dual rulership. It is interesting to [pg 261] find that the above carving, under the feet of the sculptured figure, embodies the entire meaning of the statue, which is but a variation of the native philosophical theme of “Divine Twain” or Quetzalcoatl. Two serpents' heads surmount a semi-human body and meeting form the semblance of two single faces turned to the front and back of the statue. By

this ingenious device the unity, yet duality of the divine twin is graphically rendered and one-half of each countenance is represented as belonging to each serpent. These are thus shown to be indissolubly linked together, yet distinct. Their single, yet dual head has four eyes, eight fangs and two forked tongues. The figure and skirt composed of intertwined rattlesnakes, constitute feminine attributes given to the symbolical figure of the “twin-lord and twin-lady,” the “father and mother of all.” Instead of hands the arms terminate in serpents' heads and the huge feet in great claws.

Between these, in the front and at the back, a rattlesnake's body and head appear. The belt consists of a large snake whose head and tail hang down in front, as the ends of a bow. A skull is attached to the front and another to the back of the belt. In the latter case it surmounts a fan-shaped, curiously plaited ornamental appendage partly decorated with feathers. Forming a sort of necklace in front are four hands, *i. e.* $4 \times 5 = 20$ and two conventionalized hearts. At the back there are two hands and two hearts and an intricate knot which fastens the necklace, the real meaning of which is far from what it may appear to be. It probably signified the same as the painted hearts and hands on ceremonial garments of which Sahagun tells us that “they meant that the people who wore them lifted their hearts and hands to the Creator to implore for rain and food.” At the same time, the arrangement in front clearly reveals the sculptor's allusion to the head, two hearts, four hands and twenty fingers, which symbolize these familiar numerical divisions. An indication that this symbolical statue was probably designed and executed by the same master who made the circular stone of the Great Plan, is furnished by the calendar sign 13 Acatl, which is carved under the skull at the back of the figure.

Deferring an investigation of the significance of this date, I shall now draw attention to what is to me the most interesting and important feature of the whole image. The

view of the top of the two heads, as may be seen by the accompanying reproduction [pg 262] from a photograph (fig. 58) exhibits, at their line of union, a small square with diagonal cross-lines. The position of this symbol which resembles the top view of a pyramid and forms, as it were, the apex of the statue, every detail of which is deeply symbolical, clearly reveals the sanctity and importance attached to this graphic image of the Centre, the union of four in one or *vice versa*, the theme on which the native mind played numberless and endless variations.

A reflection, again forced upon one in studying the monumental composite image of the dual and quadruple forces of nature, is that it must have been as intelligible to a Maya as to a Mexican, and conveyed the conception of Kukulcan to the one and Quetzalcoatl to the other. Several facts point, however, to the greater probability that the original conception of the monument must have arisen amongst Maya-speaking people.

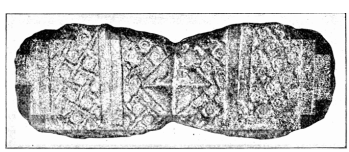


Figure 58.

The divided square, simulating a pyramid and so obviously a symbol of four = can, carved on the head of a serpent = can, throws an interesting light upon the probable derivation of the affix = can, which occurs in certain names of localities in Mexico, and in some cases distinctly stands for “mountain.” It is a fact which has already been cited in Señor Antonio Penafiel's useful work on the Geographical names of Mexico that, in the pictographic hieroglyphs of localities the affix can

signifies a town, being synonymous with the *tepec*, *i. e.* tepetl, the Nahuatl name for mountain or town. One of many similar instances, which could be produced, is illustrated in his fig. XXIII, 1, where *can* obviously stands for the mountain which is represented as twisted or bent [pg 263] over (colhua), in the hieroglyph for Colhuacan. The hieroglyphs for the towns Acayocan and Tenayocan, furnish a similar employment of the mountain to express the sound can. The sense of the affix *can*, meaning a town, only becomes clear when we interpret it as the name of the artificial mountain with four sides, the pyramid, which was the symbol of four = the Maya *can*, and was the emblem of a central capital. This is convincingly proven by the Codex Mendoza for instance, in which it is shown that the Mexican mode of recording the conquest of a tribe was to paint their hieroglyphic name and a picture of the destruction of the pyramid temple which had stood in the centre of their capital. In other words, the conquered town ceased to be a centre of rule—its captive chieftain was taken to the capital, where the horrible rite of sacrifice performed upon him and the tearing out of his heart likewise symbolized the destruction of the independent life of the tribe or integral whole he represented in his person. It was thus brought home to the conquered people that they had ceased to exist as an independent body, and the distribution of the chieftain's flesh to the ritualistic cannibals graphically symbolized its absorption into the great central state. It is necessary to emphasize here that these horrible rites were of comparatively recent origin and had been invented by the Mexicans for the purpose of intimidating their vassals, after a prolonged period of wars and bloodshed, which menaced the very existence of the integral state. The presence in Mexico of numerous names of towns, ending in can, seems to indicate the influence, in ancient times, of the Maya-speaking civilization to which the origin of the pyramid must be assigned. The association of the latter with the word *can* is strikingly illustrated in the name of Teotihua-Can, where stand the ruins of two of the largest and most imposing pyramids of ancient

America. The base of the larger of the two has been estimated at about 700 feet square, it being impossible to take an exact measurement owing to the mass of accumulated débris which covers the lower part of the structure.

The base of the second pyramid measures about 475 feet square. The sides of both pyramids rose at an angle of about 45 degrees and were in each case interrupted by four terraces. This double application of a quadruple division merits special attention, as it produced besides the four great 4×4 lesser sections, the sacred centre of the terraces, which crowned each structure. Historical [pg 264] tradition relates that the larger pyramid, known as the "Enclosure of the Sun (=Tonatiuh-I-Tzacual)," originally bore on its summit a colossal image of the sun, covered with plates of gold, whilst the other, the "Enclosure of the Moon" exhibited a similar image, covered with silver. The distinguished and reliable historian Orozco y Berra quotes this tradition adding that the soldiers of Cortés despoiled the images of their precious metals and that the Bishop Zumarraga ordered a further destruction of all monuments at Teotihuacan.

The tradition which records the existence of a silver and of a gold image, cannot be dismissed as unfounded, because it meets with a certain amount of corroboration by other data. In the first case the so-called "battered goddess," a mutilated stone image, which was found in the courtyard at the base of the "Pyramid of the Moon," looks as though it may have been the very monument which was once plated with silver. Traces of concentric bands of ornamentation seem to indicate that its round face had originally occupied the centre of a sculptured disc, in which case this must have had a diameter of about twelve feet. In Peru, as already stated, a silver image of the moon, associated with the female sovereign, was the complement to the golden effigy of the sun, associated with the Inca.

Even if data had not already been produced which establishes the existence of two religious cults in ancient Mexico, the respective symbols of which were the sun and the moon, the presence of two pyramids at Teotihuacan would suggest the existence of a division of some sort. The origin of these great and imposing structures is shrouded in mystery, but it is generally conceded that they must have been built long before the comparatively modern inhabitants of the valley of Mexico, the wandering Aztecs, had taken up their abode in the midst of the salt lagoons. The erection of two pyramids, however, proves that their builders had already practised the cult of the middle of heaven and earth, or Above and Below, and of the Four Quarters for so long a time, that there had been a separation of religions and government into two almost independent parts, each complete in itself. In the light of the testimony produced it is safe to infer that for an indefinite time the rival cults developed side by side until dissension and consequent disintegration followed. The Mexican state was the outcome of a later effort to reorganize and rebuild an integral whole [pg 265] on the ancient plan, the knowledge of which had been preserved and handed down. As time went on it was inevitable that the same causes which had caused the more ancient and greater state to crumble away, should be actively at work on the second.

It has already been shown that two religions existed in Montezuma's time the respective embodiments of which were Huitzilopochtli and Tezcatlipoca. It is an interesting fact, related by Bernal Diaz, that the idols of both stood together in one tower at the summit of the great temple and were alike, “because they were brothers.” At the same time whilst Tezcatlipoca's image was decorated with obsidian (=tezcatl) Huitzilopochtli's was encrusted with turquoises. It is curious to note how closely the old soldier's description of these idols answers to that of the great dualistic statue which has been discussed in the preceding pages. His account contains the following

details: “In this hall were what resembled two altars with very richly [ornamented or carved] platforms on the top of the roof or ceiling. On each altar was a statue, as of a giant, very tall in body and very stout. The first, which represented Huitzilopochtli, had a very wide, deformed or monstrous face and forehead, and terrifying eyes ... around his neck were faces of Indians and what were hearts. These were of gold whilst the former were of silver inlaid with blue mosaic-work. The entire body was covered with mosaic-work, gold and beads and misshapen pearls, all fastened to it with a kind of cement or glue. Encircling the body were what were like huge serpents made of gold and mosaic.... The idol was of Tezcatlipoca, and its eyes were made of shining black stone [obsidian] called Tezcat. The statues were alike because they were said to be brothers. Tezcatlipoca was the lord of the Underworld ... and around his body were figures like small devils with tails like serpents.”[74] But for the fact that Bernal Diaz mentions a plurality of faces in Huitzilopochtli's necklace, whereas our monument exhibits but one skull, in front, his description strikingly coincides with the monolith now existing. Considering that thirty years had elapsed before he wrote this description allowance must be made for this and other slight [pg 266] lapses. On the other hand, dual statues, exactly alike, but with differently colored ornamentation, are precisely what we should expect to find on the summit of the great pyramid-temple of Mexico. With our present knowledge and comprehension of native symbolism, moreover, we see that two statues, each of which figured twin-serpents, would best express the native idea of the dual and quadruple principles and elements. What is more, two dual statues, each surmounted by a square, diagonally crossed, like a pyramid, would correspond, in symbolism, to the two great pyramids of Teotihuacan and carry out, on a small scale, the idea of a dual government.

Valuable and reliable evidence, showing to what an extent the Mexicans regarded their government as dual

and quadruple, can be gleaned from the records of the presents sent by Montezuma to Cortés, under the impression that the bearded Spaniards were the descendants of the ancient founders of their civilization. The native ruler sent the complete ceremonial dress of the four lords of the four regions denoting by that act of homage that he acknowledged Cortés as his equal, *i. e.* the supreme central lord who united the four-fold power in his person. “He likewise sent him a large wheel of pure gold, covered with designs and with the image of a monster in its centre.” Its weight was estimated at 3,800 “pesas” and it was considered “the finest and best of all the presents.” It was accompanied by “a large wheel of silver,” weighing forty-eight marcos. By the light of our present knowledge it may be that both “wheels” were images of the Great Plan and that whilst the gold one set forth the constitution and organization of the Upper division of the State and possibly conveyed the statistics of its members, the silver wheel was a record of the Lower division. The gift of these tablets must have been intended as an act of subservience and an acknowledgment of Cortés as the lord of the Above and Below, as well as of the Four Quarters. The utter lack of understanding for the symbolism of these gifts on the part of the recipient, can scarcely have escaped the notice of Montezuma's messengers and must have sorely puzzled their unfortunate master.

The existence in Mexico at the time of the Conquest, of a dual state, suggests the possibility that, in some way, the pyramids of Teotihuacan continued to be connected with the opposite and rival cults of the Sun and the Nocturnal Heaven, although their origin was shrouded in the past. It is known that their site was venerated: [pg 267] besides, the name Teotihuacan, which Orozco y Berra translated as “the place of the masters as keepers of the gods” or “the place where the gods were adored,” most probably really meant “the divine four-sided mountains or pyramids” or, possibly, “the sacred pyramids of the lords.”

Until an extensive, carefully-planned and systematical exploration has been carried out at Teotihuacan, it is impossible to form any definite conclusions concerning its past history. Cherishing the hope that such an exploration may yet be made during my lifetime, I shall merely make a few remarks concerning the ruins, which I visited many years ago. Approaching them from the south one enters a broad straight road, several miles in length and about 250 feet wide, which is bordered at each side by a series of irregular mounds, probably covering ruined structures. This imposing road leads directly into the vast courtyard which stretches across the base of the great pyramid of the Moon. As the City of Mexico lies to the south of Teotihuacan it is significant to find that this road leads from that direction to a vast pyramid situated at the north, which was, according to the ancient Mexicans, the region of the Underworld, darkness and death. It is not surprising, therefore, to find that the ancient native name which still clings to the roadway is “the path of the dead.” The presence, moreover, of innumerable small clay heads which are, undoubtedly, portraits or effigies of persons represented as dead, points to the alternative that Teotihuacan may have been the necropolis of an ancient civilization or that it was, even at the time of the Conquest, the place where a register of deaths was kept by the priest-rulers, by means of small clay effigies.

Considering the native idea, it seems more than probable that all matters pertaining to the dead should be relegated to the northern region and the fact that the road from the south leads to a pyramid which tradition associates with the moon, the symbol of the nocturnal cult of the “Below,” lends color to these views.

There is a temptation to imagine that possibly after the adoption of two distinct cults of which the second pyramid seems to furnish incontrovertible proof, a further divergence ensued resulting in the ultimate abandonment of the capital by the votaries of the Sun, the male principle and the Above. As the native civilizations were

based on such a plan that dissension and disorganization inevitably led to utter downfall and ruin, it is easy to see [pg 268] that a gynocracy and the cult of the earth and underworld should gradually become extinct. At the zenith of its power, however, it may safely be inferred, that Teotihuacan was a great centre where astronomical observation and agriculture flourished, these being the natural outcome of the cult of mother-earth and the nocturnal heaven. Whilst all conjecture must necessarily be hypothetical, it is a comfort to reflect that, locked in the ruins themselves, lies guarded the past history of Teotihuacan, which was shrouded in a mist of uncertainty even at the time of the Conquest.

The pyramids themselves, however, openly reveal the fact, that their builders possessed a knowledge of the great plan, and that, at some time, a single central pyramid not being sufficient, two, of unequal sizes, arose to bear lasting testimony not only of past greatness, but of long-forgotten rivalry and dissension. Finally, there is one thing certain, namely, that the building of the pyramids at Teotihuacan must have been preceded by an extremely long period during which the native ideas, of which they were the expression and image, had developed and taken definite shape. If Teotihuacan yields evidence of an advanced stage in the history of the intellectual development of the native race, it also marks the beginning of the disintegration of the state of which it was the central capital. On the other hand, at Cholula, also situated in the high plateau of Mexico, to the east of its present capital stands, in ruined solitary grandeur, the largest pyramid on the American continent, whose base is twice as large as that of the pyramid of Cheops in Egypt.

The name of the ancient capital of which it formed the nucleus was Tullan Chololan Tlachiuhaltepec.[75] Boturini (*op. cit.* p. 113) [pg 269] cites an old native manuscript on which a picture of the pyramid of Cholula was painted with the note that, in ancient times, it was named Tultecatl Chalchihuatl On Azia Ecatepec, which he

translates as “the monument or precious jade stone of the Toltecs, which rears itself in the region of the air.” As ecatepec literally means air-mountain, Boturini's translation may seem somewhat exaggerated; on the other hand, the Spaniards, who knew the Nahuatl language best, repeatedly state that its words were so replete with significance that it would sometimes require several Spanish sentences to set forth the meaning of a single native word. Boturini, who had exceptional opportunities for obtaining information, adds to the above the following translation of a Nahuatl inscription which had been written by the native scribe below the drawing which unfortunately is now lost. “Nobles and Lords: Here you have your documents, the mirror of your past, the history of your ancestors who, out of fear for a deluge, constructed this place of refuge or asylum for the possibility of the recurrence of such a calamity.”

After citing the opinions of various authors concerning the origin of the pyramid, Orozco y Berra concludes that “there is no certainty about its age, but instinctively it is supposed to be extremely ancient and to pertain to prehistoric times. According to my judgment the people who constructed it belonged to the same civilization as the builders of Teotihuacan and possibly were their contemporaries. Cholollan was also a venerated sanctuary, in which the religious idea predominated” (*op. cit.* p. 363). “At the time of the Conquest a temple stood on the summit of the [pg 270] pyramid and contained an image of Quetzalcoatl (the Divine Twain, the Creator, the Father and Mother of all) as well as an aerolite, shaped like a frog which had fallen from heaven, wrapped in a ball of flame.” In the Vatican MS. of Padre Rios there is another version of the tradition that the pyramid had been erected by giants after a deluge, which had destroyed everything, ... and that before it was finished, fire fell upon it causing the death of its builders and the abandonment of the work.

Allusion has already been made, in the preceding pages,

to the native traditions according to which, “there had been three memorable epochs in the history of mankind, which lasted for centuries and were abruptly terminated, each time by a mighty convulsion of nature. The majority of human beings perished in each of these, but a remnant survived and thus the race was preserved.”

The periodical festival of thanksgiving, which was still observed at the time of the Conquest by the native races, abundantly testifies to the reality of their belief in these great catastrophes and the preservation of their ancestors from utter extermination. It was doubtless in order to make their past history conform with the quadruple organization of all epochs of their native Calendar that the native sages assigned their successive destructions to the separate agencies of fire, water and air, in the form of violent tempests and cyclones. From descriptions contained in the Mexican Codex Chimalpopoca and in the Popol Vuh, the sacred book of the Quichés, it will be seen that the phenomena described are such as would naturally accompany a volcanic outbreak on a great scale. Considering that, in Mexico alone, there are no less than nine monster volcanoes, of which two are not yet extinct, and that in Guatemala, in historical times, whole cities have been destroyed by earthquakes and volcanic action, it is not at all astonishing to find traditions of great catastrophes amongst the inhabitants of these regions.

No one can look upon the grand snow-clad peaks of the great volcanoes, which surround the high central plateau of Mexico, without realizing that mighty upheavals and disturbances, such as the world has seldom seen, must have attended the formation of the huge craters next to which Vesuvius seems but a hillock. A volcanic outbreak amongst these elevated peaks, which range from 15,000 to 19,000 feet above the sea-level, would obviously be accompanied [pg 271] by great inundations caused by the melting of the masses of snow which crown their heights. The valley of Mexico in which the large lagoons lie, as in a basin without an outlet, and the plains which surround

Cholula and stretch to the base of the volcanoes must repeatedly have been the scene of ruin and desolation, lasting for many centuries. As the Abbé Bourbourg justly remarks: “The majority of the edifices in the City of Mexico are built of volcanic tufa, said to have been formed by the small volcanoes which lie at the southeast of the valley of Mexico. At various periods of antiquity great masses of lava have descended into this valley, in which one extensive ancient lava-field is now known as the ‘Pedregal de San Augustin.’ ” Another great flow of lava has actually been traced from its apparent source, the now extinct volcano of Ajusco, at the south of the valley of Mexico, to Acapulco, on the Pacific coast.

The Mexican chronicles describe as follows the destruction of the earth by fire: “... there came a rain of fire: all that existed was burnt and a rain composed of sand-stone fell. It is said that whilst the sand-stone we now see was being formed the tet-zontli [*i. e.* volcanic tufa], boiled with great noise. Then the red mountains also lifted themselves up ... the sun consumed itself [was darkened], all houses were destroyed and all the lords or chiefs perished....”

The same author relates how, after the repeated destruction by water, obscurity reigned for twenty-five years. This cataclysm is also described in the sacred book of the Quichés as follows: “Then ... the waters became swollen by the mere will of the Heart of Heaven and there came a great inundation from above and descended upon the people ... they were deluged and then a thick resinous substance fell from the sky. The face of the earth was obscured and a dark rain commenced and fell during the day and during the night ... there was great sound of fire overhead. Then the people ran pushing each other and filled with despair: they endeavoured to mount upon the houses and these, falling in, threw them again to earth. They wished to climb the trees, but these swayed and cast the people from them; they tried to enter caves, but these shut themselves before them....” It was after this universal

ruin and destruction that, according to native tradition, the pyramid of Cholula was erected, as a place of refuge for the remnant of the native race which had escaped destruction [pg 272] and returned to the scene of desolation, lured by the richness of the fertile soil, just as the Italian peasants return to their vineyards on Vesuvius after each eruption. All things considered there seems to be no ground for rejecting the native tradition which affirms that the great pyramid of Cholula was erected as a place of refuge from inundations, especially as no more plausible explanation of the origin of the pyramid can be imagined. Any primitive people, inhabiting fertile plains which abounded in game and fish, and food-plants, but were exposed to frequent inundations, could not fail to recognize the advantages of an elevated piece of ground as a place of safety. It is easy to imagine the intermediate stages in the transition from this simple recognition to the final determination to build a compact, high and spacious elevation, within the reach of all inhabitants of a settlement, on which these could not only find refuge from the dangers of floods and volcanic disturbances, but also store their harvest, and possibly some form of raft or boat which they might employ as a last means of escape.

Irrefutable proof that the maize had been cultivated from remote antiquity in this region, and had even become identified with it, is furnished by the fact that the name of the small republic of Tlaxcalla, which lies in the neighboring foot-hills, signifies bread, and that its hieroglyphic sign consists of two hands holding a tortilla, or maize-cake.

It is well known that botanists have not yet succeeded in identifying, amongst the native grasses of America, the ancestor of the cultivated maize-plant. They assert, however, that the development of what is now the world's largest cereal, from a wild native species, must have required incalculable time.

It must be admitted that no factor could possibly have

more speedily impressed upon primitive men the benefits of concerted action and of organization and communal life than the occasional recurrence of a great and imminent peril which was shared by all alike, and for which there was but one visible means of escape. It is equally clear that, once a concerted and united undertaking had been determined upon, some sort of plan and organization must have naturally evolved itself. The mere building of such a gigantic structure as the pyramid of Cholula, which may well have absorbed the energies of several generations of men, or, at all events that of innumerable workmen, could well have been an [pg 273] abiding and most powerful factor in establishing their social organization. Its erection must indeed have marked an epoch in the lives of the inhabitants of this region, because, during many years it created a bond of common interest which, of itself, might well have laid the foundation of a permanent communal life, in which responsibility and labor were equally distributed. The mere necessity to expend an equal amount of material and labor upon the building of each side of the pyramid, would naturally lead to the formation of pathways traced by the feet of the carriers of earth and stone from different directions, and ultimately to a division of the workers into four bands, each associated with a different cardinal point. Practice would demand that each band should be under leadership, and be divided into those who collected and carried material, and those who placed it in position, at each side of the pyramid. The necessity for general supervision and directorship, extending over the four bands of workers alike, would, of itself, create central rulership upon which would devolve the duty of enforcing an equal division of labor, which would create, in turn, some form of systematic routine and rotation. It can thus be understood how, by slow degrees, each side of the pyramid would become permanently identified with a cardinal point; and associated with a division of workmen under its leader and a fixed period of time. It may likewise be seen how a separate caste would slowly develop itself, consisting of the trained architects and

builders, the descendants of the first organizers of human labor, and systematical rulers of men.[76]

It may thus be seen how the realization of frequent danger, the necessity to provide an escape and insure the safety of the race, aided by experience, might lead to the conception of a vast pyramid, the mere building of which would create and establish the fundamental principles of organization and government.

The simultaneous development of the ideas suggested by Polaris would inevitably lead to a comparison and association of the terrestrial centre of communal activity with the polar axis, and to [pg 274] the conception of an earthly government in which human affairs were adjusted so as to be in seeming harmony with the movements of celestial bodies. The blending of the conclusions attained by the astronomer-priests, and the practical system adopted by the master builders, could not fail ultimately to cause the pyramid to appear as the sacred visible sign or image of the single, central power and quadruple government which extended its rule throughout heaven and earth. I venture to point out that, if carefully analyzed, the pyramid seems to be but a later development of precisely the same ideas which are expressed by the swastika.

Pausing now to review preceding data we find it demonstrated that the geographical position of Tullan Cholollan and its pyramid designates it as an ancient seat of civilization where the native scheme of organization may have evolved itself, and the source whence the native traditions concerning successive destructive cataclysms and convulsions of nature may have spread.

What is more, the peculiar conditions existing at Tullan Cholollan, situated in the heart of a volcanic region, would amply explain the traditional destruction and abandonment of the most ancient centre of native civilization and the spread throughout the continent of the identical scheme of government, etc., it being most

natural that each band of fugitives, on finding what appeared to be a favorably situated region, should settle there and carry out the inherited plan of organization, etc., which would naturally become slightly modified under altered conditions. Fresh colonies on the pattern of the ruined metropolis and integral state would successively be founded far and wide and as examples of such I venture to designate Tulantzinco, literally the title Tullan, and possibly Teotihuacan, where the native civilization seems to have undergone its more advanced stages of evolution, and to have risen in power, developed divergent cults with separate languages (the Maya and the Nahuatl) and instituted the two religions and dual rulership which eventually led to dissension and the dissolution of the integral state at a period anterior to historical times.

The assumption that the most ancient centre of native civilization lay in a volcanic region affords a plausible explanation of how an inordinate value would naturally be placed on stability, *per se*, and the feelings of veneration for Polaris and a passionate [pg 275] longing for a place of terrestrial and celestial rest would become strongly developed. Indeed, it is only possible to understand the reason why various American tribes wandered about in ardent and earnest search for the stable middle of the earth, when it is assumed that they must have been driven from their former place of residence by volcanic disturbances which made a firm piece of ground under foot seem to be the most desirable of all earthly benefits. I venture to assert that this search and the ideal of stability would not have been suggested so forcibly to people who had never experienced a long succession of more or less terrible earthquakes.

Although widely different opinions concerning the identification of the ancient Tullan are held by American archæologists they will all doubtlessly admit that at Cholollan we have, in the first case, a locality to which the natives assign the name of Tollan, and a pyramid, the

largest on the American continent, which testifies that, in prehistoric times, this place was inhabited for a prolonged period, by a numerous and organized community.

The fertility of the surrounding plains now known as the Campiña de Puebla and the ancient name of Tlaxcalla yield evidence that, from time immemorial, this district was associated with maize cultivation.

The vicinity of the giant volcanoes of Popocatepetl, Iztaccihuatl and Orizaba[77] sufficiently demonstrate that they must repeatedly have been the scene of violent disturbances which would fully account for the tradition of successive cataclysms which destroyed a vast state and almost annihilated the native race.

The foregoing unassailable facts undoubtedly justify the conclusion that the giant pyramid of Cholula marks the site of the great and ancient Tollan whose destruction was the theme of the plaintive native songs of lamentation even at the time of the Spanish Conquest. That the natives have ever regarded Cholula as a place of particular sanctity is shown by the following statement by Fray Geronimo Roman y Zamorra (1569-1575) (Republicas de Indias, ed. Suarez, Madrid, 1888): “It was Colola or Cholola, which was the ancient metropolis or head of all the native religion, so much so that all the great chiefs or lords had their own [pg 276] chapels and dwelling houses there because they used to perform pilgrimages to its great temple this being the most revered [in the *land*].”

It is also reasonable to infer that the region of the high plateau and valley of Mexico, possibly before the formation of the great lagoons, was the cradle of ancient American civilization, where, during countless centuries, the native race literally and figuratively cultivated its own maize and simultaneously developed the set of ideas which formed the basis of its intellectual evolution.

In this connection it is interesting to reflect that, as clearly shown by ceremonial usages which existed

throughout our continent and survive to the present day amongst the Pueblo Indians, it is to the fostering care, forethought and labor of countless generations of women, the “Corn Maidens and Mothers,” that America owes the priceless legacy of a food-plant which has already sustained untold millions of lives. Thus, whilst the ancient “Daughters of the Earth” have given their country a gift which will last for all time, the pyramids, temples and cities, reared by the “Sons of Heaven,” have fallen into ruin, and the great edifice of human thought that they reared, their complex social organization, government and calendar now lie superseded under the dust of time.

At this point of investigation the question naturally arises, Whence came the founders of the native civilization, who established themselves and peopled the central region of Mexico and doubtlessly dwelt there for a prolonged period prior to the first of the traditional cataclysms which nearly proved destructive to their race?

It is obvious that, before this interesting question can be satisfactorily discussed, a minute analysis and investigation should be made of all other ancient civilizations of the world in which the swastika was employed as a sacred symbol. A comparative research on such a scale could only be effectively carried out with the active coöperation of orientalists, archæologists and philologists in all departments of research. Taking, as an index, the presence in old centres of civilization of the most ancient sacred symbol of the world, the swastika, the aim of the joint investigation should be to trace how far it was accompanied, in each country, by pole-star worship and the set of ideas, symbols and words to which it is so indissolubly linked in ancient America and China. By this means [pg 277] only can a final conclusion be reached as to whether this symbol spread over the earth from one original centre of civilization, or whether it suggested itself to primitive observers of Septentriones in various localities and at different times, as the natural outcome of star-observation. If the swastika and the

septentrional set of ideas spread from one centre then we should expect to find them accompanied by traces of a common language. I shall have contributed my share to the joint investigation when, in addition to the preceding data, I present the following list of Maya and Mexican names intimately associated with the native symbols and set of ideas. In presenting them I once more draw attention to the resemblance of sound in words which obviously influenced the choice of certain symbols just as, for instance, loose-skinned oranges are now given as presents at New Year in China, because their native name has exactly the same sound as the word meaning "good fortune." The use, especially on porcelain, of the bat = fuh, to signify "happiness," also fuh, and of the sonorous stone "King" to emblematize "prosperity,"[78] are other instances which shed much light upon the origin of primitive symbolism in China and elsewhere.

Symbols And Names Connected With Middle Or Centre.

Maya.

Ho, or Ti-hoo = name of ancient capital of Yucatan.

Ho-m, or ho-mul = artificial mound or pyramid.

Ho-mtanil = belly.

Ho-bnel = entrails.

Ho = five, symbolized by hand = kab, also by five-dot group.

Ci-hom = sacred tree, the leaves of which were scattered in the temple court-yard at the baptism of children (Landa).

Ho-l = head (symbol).

Ho-och = vase in general.

Cuxabel = heart or life, *cf.* ah-cuch-cab = heart of the state,

title of lord or chieftain.

Nic, or nic-té = flower, usually represented as consisting of five parts, *i. e.*, the centre and four petals.

Tem = the square altar.

[pg 278]
Names Of Symbols Connected With Four Quarters, Above And Below.

Maya.

Can = four, serpent.

{Caan = sky, cord.
{Canalil = adj. grandeur, elevation.
{Canal = on top of, on; also yellow.
{Canal-cun-zaal = to exalt, elevate, aggrandize, praise.
{Cananil = necessity, need.
{Canaan = adj. necessary, needed.

Ché = tree.

Zin-ché = cross, literally tree of life or of power.

Zin-il = powerful, *cf.* zihnal = original, primitive.

Zihzabal = creation.

Zian = the beginning, origin, generation.

Zihil = to commence, or be born.

Zinan = scorpion, symbol.

Name And Symbol Of North.

Maya.

Am = spider.

Aman = the north.

Star-Names.

Maya.

Ek = star, black.

Ek-chuah = name of the patron divinity of travellers and traders, *i. e.*, the pole-star.

cf. Ikal, native word adopted by Spanish missionaries to denote "a spirit."

I have already pointed out how a minute comparison of the equivalent Mexican symbols and their names shows that the latter often seem to be mere translations from the Maya and that the same identity of sound does not always exist between the Nahuatl symbol, its name and true significance. On the other hand in the much-used Mexican symbol for the centre and four quarters, the flower, pronounced ho-chitl, but written xo-chitl, the archaic Maya syllable ho, so intimately connected with the centre, recurs. It also appears in the name of the constellation Ursa Minor, xo-necuilli, [pg 279] in the word xoch-ayotl = tortoise, employed as a symbol, and in the name xolotl = something double or dual, sometimes employed as a synonym of coatl = twin, serpent. The hand = maitl was employed to express the numeral five = macuilli. It is particularly interesting to note that in order to express the word tlachi-ual-tepetl or "artificial mound" (the Maya hom) in Nahuatl, the scribes had to paint a mountain surmounted by an eye, a symbol also employed to designate stars = the eyes of night. The Nahuatl for tree = quahuitl is almost homonymous with quaitl = head and both were employed as symbols of the centre.

The following Nahuatl words claim special attention. The first is teotl, which was adopted as the equivalent of the Greek Theos by the Spanish missionaries, but which appears to have been originally used in the sense of a "Divinity," or "divine lord," and was also applied to all

lords or rulers. The second is the verb yoli or yolinia = to live and yollotl = heart. A special interest attaches itself, however, to the noun yauatl = circle and the verb yaualoa = to go around in a circle many times, because there is good ground for identifying, as the Ursa Major, the star-god mentioned as Youal-tecuhtli by Sahagun. As youalli means night, the title literally signifies “the lord of the night,” while yaual = tecuhtli would mean the lord of the circle or wheel, the most appropriate name for Ursa Major. The actual representation, in the “Lyfe of the Indians,” of the “Lord of Night,” within a wheel or circle composed of his own footsteps, so strikingly corroborates this view, that further comment appears unnecessary (fig. 59).

Figure 59.

In conclusion the exact meaning of the most important native symbols is here recapitulated so as to facilitate comparative research.

THE SWASTIKA OR CROSS

the most ancient of primitive symbols was primarily a graphic [pg 280] representation of the annual rotation of the Septentriones around Polaris. It thus constituted not only an image of the most impressive of celestial phenomena but also a year-symbol. The most highly-developed forms of the swastika found in Mexico are associated with calendar-signs. In Mexico and in the Ohio Valley it is linked with the serpent, to the symbolism of which reference should be made. In Copan the cross symbol is associated with the image of a figure in repose, occupying the Middle, and four puffs of breath or air, laden with life-seeds, emanating from this.

Considering that the cross ultimately became the symbol of the union of the four elements or two principles of nature in one and that the production of life-producing rain was attributed to the union of heaven and earth, it is

evident why the Cozumel cross was described to its Spanish discoverers, by the natives, as a symbol of the "rain-god."

THE SACRED FIRE

which was kept perpetually burning on the summit of the pyramid was the graphic and appropriate image of the central light of heaven that most naturally suggested itself to the native mind. Its origin was attributed to supernatural agency and it was under the special care of the priesthood. A deeply symbolical meaning was obviously attached to the ceremonial kindling of the sacred fire by means of the reed fire-drill which was held perpendicularly and inserted into a horizontally-placed piece of dry wood. A noteworthy resemblance to a tau-shaped figure was thus formed, which is interesting in connection with the fact that the ceremony of kindling the sacred fire was undoubtedly regarded by the ancient Mexicans as emblematical of the productive and life-giving union of the dual principles of nature. The acatl or reedstalk, inserted into the vase-like symbol of the earth, such as is carved on the centre of the upper edge of the calendar-stone, is but another hieratic form of the same symbolism.

The annual re-distribution of the sacred fire to the entire population, a fresh gift from heaven obtained by the mediation of the high-priest, was particularly impressive and emphasized the idea of all fire and light and life proceeding from a common centre.

It is noticeable that the reed or acatl is also intimately associated with the east, the masculine or life-giving region. The [pg 281] Maya name for tortoise = ac, is a curious homonym of the Nahuatl word ac-atl.

THE SERPENT

emblematizes and expresses the sound of quadruple power in Maya and duality in Nahuatl. It was employed

as an image or embodiment in a single form of the two principles of nature or the four elements. It was usually accompanied by the adjective heavenly or divine and symbolized reproduction, being the union of the masculine or heavenly and feminine or earthly principles. In this connection it should be noted that the numeral two in Nahuatl is ome, and in Maya, ca. A native mode of expressing duality, by means of two horn-like projections on the heads of allegorical personages, is exemplified in fig. 29, p. 92.

THE TREE

was the emblem of life, of hidden and visible growth which extended downward into the earth and upward into heaven and sent forth its four branches towards the cardinal points. It typified tribal life because its various parts were identified with the different members of the community and, metaphorically, the lord was spoken of as the trunk or main stem; the minor chiefs as branches and twigs; the men or vassals as leaves; the maidens as flowers, and the women as fruit, etc. The name “atlapalli” was, for instance, the current Nahuatl appellation for vassals.

As the conventionalized trees in the native picture-writings are usually figured with four equal branches they formed an appropriate image of the living state, and of all directions in space. The “tree of life” thus formed a swastika or cross and both symbols were indissolubly linked together. The names of two trees, considered particularly sacred by the Mayas, were the ci-hom and the yax-ché, a sort of ceiba which was termed “the tree of celestial life” (Landa).

THE HUMAN FACE

was an image of the duality and unity of nature. The upper half of the face symbolized heaven with its two eyes, the sun and moon. The mouth and teeth, the Nahuatl name for which = tlan-tli was homonymous with

the affix tlan = land or earth = tlalli, emblematized earth, darkness and the Below. The nose with its [pg 282] two nostrils emblematized inhalation and exhalation. The sanctity attached to this mystic union of two streams of breath led to the consecration of the nose by the wearing of a symbolical ornament attached to it.

THE HUMAN FORM

expressed “a complete count” and was employed as an image of the entire constitution, and of the calendar system; each part of the government administration and calendar sign being identified with one of the twenty digits, four limbs, body and head of the human form.

THE QUADRUPED

usually the ocelot, or puma, was the symbol of the government of the Below and nocturnal cult of the earth as opposed to

THE BIRD OR EAGLE

which typified the upper state and diurnal cult of Heaven. Chiefs, who united dual powers in their persons, wore, as an emblem, the serpent, or a combination of ocelot-skin and feather ornaments.

THE HAND

expressed *per se*, in Maya, the numeral ho = five, which was also the name of a state which invariably consisted of the central capital and four provinces. As such it was carried as an emblem of power by the central ruler, as may be seen in the native codices. The thumb being regarded as the principal or ruling finger, the chief lord was metaphorically spoken of as the thumb, whilst the minor lords were entitled fingers = pilli.

THE PYRAMID AND SACRED MOUNTAIN

was primarily an artificial elevation destined to be a place

of refuge in times of inundation; the pyramid ultimately symbolized: (1) the sacred stable centre of the world and the Four Quarters; (2) central power and its four manifestations or elements. The great pyramid of the ancient City of Mexico which was crowned by two chapels, respectively containing symbolical images of the two principles of nature, is a striking illustration of the employment of the pyramid to express the dual centre (the Above and Below, etc.) and the quadruple organization of all things which was expressed not only by the four sides of the structure but by its four superposed terraces. The fact recorded by Friar Duran, that [pg 283] the flight of steps which led to the summit of the pyramid on its eastern side consisted of 365 steps, and that the annual ceremony of ascending these, performed by a consecrated individual, "signified the course of the sun in a year," indicates that the pyramid was also associated with the idea of the quadruplicate division of time which pervaded the entire calendar system.

It should also be borne in mind that in ancient Mexico the summits of high mountains were regarded as sacred, "because it was there that Heaven and Earth met and generated fructifying showers." As religious cult developed, the rites performed on the summit of the pyramid or artificial mound were for the purpose of evoking rain and the renewal of life upon earth, and symbolized the union of heaven and earth. To the native mind the pyramid thus represented the consecrated meeting-place of heaven and earth, the Above and Below, the masculine and feminine elements, the "divine twins," as well as universal, all-pervading, quadruplicate organization. The massive pyramid likewise typified, in an impressive manner, the main idea connected with the Middle: that of stability, immutability, quietude and repose, combined with power.

In some localities a remarkable rock or massive block of stone was adopted as the mark of the sacred centre and

became the altar on which offerings or sacrifices were made, or the throne on which the terrestrial central ruler seated himself on ceremonial occasions and assumed an attitude of absolute repose. It is interesting to collate the Nahuatl words Te-otl, divinity or divine lord, with te-tl = stone and the Maya te-m = stone seat or altar, of which many carved examples exist in the ruined Central American cities, and to observe that principal personages, such as are represented on the carved altars and in the middle of the Copan swastika, are represented as seated cross-legged, as though this attitude were specially indicative of repose on the stable centre of the four quarters. As the natives usually squat or sit on their heels, the cross-legged attitude is particularly noteworthy in connection with the omnipresent set of ideas.

THE BOWL OR VASE

was the emblem of earth, the receptacle of fructifying showers, and of the terrestrial centre. Filled with rain-water, on the surface of which the radiance of a star—the pole-star—reflected itself, the bowl was supposed to typify the union of heaven and earth by [pg 284] means of the divine essence of light and life, proceeding from the "Heart of Heaven."

THE FLOWER

was another symbol of the earth and of the state and its divisions. It occurs as a composite flower consisting of a yellow centre surrounded by multicolored petals. The usual form is of a flower with four equal petals, bearing a circle or dot in the centre and one on each petal, the Middle and Four Quarters being thus expressed.

A closing allusion should be briefly made to the native association of the square with the earth and the circle

with the heaven and to the influence exerted by these ideas combined with those of light and darkness upon primitive architecture and symbolical ornamental designs.

Pointing out that all of the above symbols are but variations on the fundamental theme of the “Middle, Four Quarters, Above and Below,” I also emphasize the fact that, in ancient America, language powerfully influenced the choice of symbols, as may be particularly seen in the case of the serpent, the Nahuatl and Maya names for which are homonymous with duality and quadruplicity.

The origin and meaning of the ancient American symbols of the cross, the serpent, the tree, etc., are clearly apparent. It remains to be seen how far this is the case in other countries where the identical symbols were or are employed, and it is to my fellow archæologists that I look for final authoritative statements on this important subject, in their special lines of research.

Meanwhile I shall present some facts which are accessible to the general reader and suffice for the purpose of my present investigation.

CHINA.

Pole-star worship and determination of time by Ursa Major existed in China from remote antiquity. The Chinese name for the pole-star is Teen-hwang-ta-tee, literally the great imperial ruler of the Heaven. In China “the pole-star, round which the entire firmament appears to turn, ought to be considered as the Sovereign of the Heavens, and as the most venerated divinity” (G. Schlegel, Uranographie Chinoise, p. 524). The sacred central forbidden enclosure, at Peking, contains a temple of the North Star God. In the description of the imperial worship held at the winter and summer [pg 285] solstices, in James Edkins' Religion in China (London, 1878, p. 24) it is stated: “On the second terrace of the east side, the tablet of the Sun is placed, and also that of *the Great Bear*, the five of the 28 constellations and one

for all the other stars." The following passage shows the origin of the Chinese year:

1. "The months and seasons are determined by the revolution of Ursa Major (the Chinese name for which is Pek-tao the 'Seven Directors'). The tail of the constellation pointing to the east at nightfall announces the arrival of spring; pointing to the south the arrival of summer; pointing to the west the arrival of autumn and pointing to the north the arrival of winter. This means of calculating the seasons becomes more intelligible when it is remembered that in ancient times the Bear was much nearer the north pole than now and revolved around it like the hand of a clock" (Prof. Rob. K. Douglass, China. London, 1887, p. 418). The Chinese zodiac is represented with the pole-star and circumpolar constellations in the centre (Astronomy of the Chinese, Ancient China, W. H. Medhurst, Shanghae, 1846).

2. The determination and designation of six directions in space. In Chinese the six ho or ki designate the limits of space, the zenith, nadir and four quarters (Mayer's Manual, pp. 306, 312 and 321). "The term Liu-ho also applies to the six pairs of cyclical signs and means 'Universe,' that is, Heaven and Earth [being Above and Below] and the Four Quarters."[79]

The syllable ho also occurs in the following words which deserve to be collated with the Maya list: Hô = river, hu = lake. C-hó-o = master, *cf.* Maya hol = head. Hó-o = resident, *cf.* Maya ho = capital. Shó-o = tree, *cf.* Maya ci-hom = tree. Pih-shó-o = cypress. Kwó = country, *cf.* mouth, symbol for land or below. Kòw = mouth, etc. Chow = name of ancient metropolis.

3. The conception of the Above and Below = duality. The zenith is naturally associated with heaven and the nadir with earth. Heaven is father and earth is mother. Heaven is figured by a circle and earth by a square. "The marriage of Heaven and Earth produces all things." The association of heaven with the male and earth with the

female principles is shown by (1) the injunction: “Thou shalt honor thy father as the heaven and thy mother as the earth.” (2) In Pekin, the Emperor, termed “the [pg 286] Son of Heaven,” inhabits the “Palace of Heaven” whilst the Empress inhabits the “Palace of Earth's repose.” The sun is male and the “Temple of the Sun” is situated to the east. The moon is female and the “Temple of the Moon” is situated to the west in the sacred enclosure at Pekin. The emblematic color of the heaven is naturally azure; of the sun, red; of the earth, yellow; and of the moon, white. It is thus evident that the cult of heaven and earth is indissolubly linked to that of the Yang and Yin, the male and the female principle, and that in China the following chains of association concerning duality were formed:

Zenith.	Nadir.
Above.	Below.
Tien = Heaven.	Tec = Earth.
Father.	Mother.
Yang.	Yin.
Color: Azure.	Yellow.
Emblem: Sun.	Moon.
East = place of rising.	West, place of setting.
Light.	Darkness.
Day.	Night.
Personification: the Shang-ti =	The Earth-Mother.
Emperor = Above, The Lord of Heaven or Universe.	The Empress = Below?
Earthly representative: the Light Emperor.	The Empress? or Sombre Emperor?

An interesting addition to this dual list is the view of a modern Chinaman, that the Yang and Yin principles refer to positive and negative electricity! (Legge). A striking result of the association of woman with the nadir and earth is the fact that in Thibet, according to Rockhill, woman is designated as Smanba or Manba: “low creature.”

THE MIDDLE AND FOUR QUARTERS.

It is well known that the Chinese designate their empire as the “Middle Kingdom.” Another native name for China is “Chung-ho-a,” which I find translated as “the Flower of the Middle.” The empire is likewise designated as “the Four Seas” = ssu-hai and “the Four Mountains,” and it was actually divided by the emperor Yaou or Yāo (B.C. 2357) into four provinces converging at the capital, the central enclosure of which was considered as the centre of heaven and earth. It is extremely significant that, in this central enclosure there is a temple, consecrated to the god of the [pg 287] north star = The Imperial Ruler of Heaven, whereas altars only are dedicated to the sun and moon respectively. The existence in the central enclosure, or the “Carnation prohibited city,” of the Temple of Earth's Repose, reveals that the idea of stability was associated with this terrestrial centre. The fact that the Empress and the female portion of the Imperial family resided in the “Palace of Earth's Repose” affords an explanation of the possible origin of deforming the feet of noble women, this being a means of enforcing comparative repose upon them, in keeping with the symbolism of their surroundings.

The most striking structure in this sacred enclosure is “an artificial mound, nearly one hundred and fifty feet high, having five summits, crowned with as many temples. Its height allows the spectator to overlook the whole city, whilst, too, it is itself a conspicuous object from every direction.” This sacred mound or pyramid actually marks the centre of the empire. From the surrounding walls of the sacred city four roads diverge towards the cardinal points, dividing the capital into four quarters. Each province was ruled by an official and both province and ruler seem to have been anciently designated by the term Mountain = Yo or Kan. A superior official, entitled the “President of the Four Mountains” is mentioned as the counsellor of Emperor Yaou in the Shu King. One name for mountain is yo, another is kan, a word which

resembles k'an = water and kwăn = earth, which forms the name of the earth mother = Kwan-yin. Without drawing any hasty conclusions, I merely note the curious fact that the title "the President of the Four Mountains," must sometimes have been rendered as Kan and as Yo, and that a variant the name of "four seas" may well have been "four *ho*" or lakes or rivers. The title kan, meaning mountain or eminence, and the idea of four rivers flowing from a common centre or spring, may well have developed themselves among Chinese-speaking people. It may be an odd coincidence only that the word kan = mountain, should be so intimately connected with the numeral four in the Chinese title; while it is a synonym for four in the Maya, it is also found employed in the honorific Maya title Kukul-kan = the divine Kan, and as a synonym for mountain in certain names of localities in the valley of Mexico. An interesting but little known fact is that the peak of the mighty Kulkun mountain in China is designated as the "King of Mountains, the summit of the earth, the supporter of [pg 288] heaven and the axis which touches the pole" (Meyer's Conversations-Lexikon).

I should much like to know whether the name kul-kun is a variant of kul-kan, and literally signifies "divine mountain." In this case it would strangely resemble the Maya Kukulkan and the Nahuatl Cul-hua-can, the name of the fabulous recurved mountain of Aztec tradition. Feeling that I am here treading upon extremely dangerous ground I shall abandon further comparisons and conclusions to philologists and Chinese scholars and merely conclude by stating the certain facts, that in Chinese and Maya alike the syllable *ho* seems to be associated with the Middle; while *can* is connected with four-fold division. I may perhaps venture to add that, in Chinese, Maya and Nahuatl alike, the particles te and ti seem closely connected with Heaven; while the Chinese kwan = earth, offers a certain resemblance to the Nahuatl affix tlan, meaning land, and kan, sometimes used for mountain.

Since the Chow Dynasty, the empire was spoken of as having five instead of four mountains, which leads to the inference that reference was thus made to the central metropolis also, the most sacred feature of which was its central artificial mountain or pyramid. It is obvious that the empire was governed from the central chief capital and from minor capitals situated in the four provinces and built on the pattern of Peking. In an extremely interesting and clever paper[80] Mr. James Wickersham has recently remarked that "the arrangement of cities after the cardinal-points plan was the rule not only in America but in China" and gives the following quotations: "Mukden, the metropolis and ancient capital of Manchuria, was a walled city like Peking. Main streets ran across the city from gate to gate, with narrow roads, called Hu-ting, intersecting them. The palace of the early Manchu sovereigns occupies the centre" (The Middle Kingdom, Williams, vol. I, pp. 192-198). The Manchurian city of Kirin is also divided into four quarters: "Two great streets cross each [pg 289] other at right angles, one of them running far out into the river on the west supported by piles." Peune, another large city, is similarly divided. "It consists of two main streets with the chief market [place] at their crossing. This plan is the rule in the cities of northern China; the large cities are walled and divided by cross streets emerging from the city gates at the cardinal points" (Coxe's Russia, pp. 316-17). The relation of the central seat of government to its provinces is thus recorded in the Canon of Shun.[81] "In five years there was one tour of inspection (performed by the emperor) and four appearances at court of the nobles. They set forth a report of their government in words. This was clearly tested by their works. They received chariots and robes according to their services."

The order of rotation in which the emperor visited in one year the capital of each quarter, returning after each absence to the metropolis, is given as follows: "In the second month the tour was to the east. In the fifth month ... to the south. In the eighth month ... to the west. In the

eleventh month ... to the north." During the next year the nobles of the eastern province made their appearance at court, and the south, west and north provinces followed in turn, it being noticeable that, in each case, the circle started at the east, the place of rising.

The institution of the calendar by the Emperor Yaou is described at length in the Shu King.[82] Confucius said of this remarkable personage, "Heaven alone is great, but Yaou is able to imitate Heaven."

The Emperor Yaou "... harmonized the various states of the empire and the black-haired people, oh! how they were reformed by this cordial agreement. He commanded He and Ho (officers superintending the calendar and astronomical instruments) in reverent accordance with the motions of the expansive heavens, to arrange by numbers and represent the revolutions of the sun and moon and stars with the lunar mansions and then respectfully communicate to the people the seasons adapted for labor. He then separately directed He's younger brother to reside at Yu-e (the modern Tang-chow in Shan-tung), called the Orient Valley, where [pg 290] he might respectfully hail the rising sun, adjust and arrange the eastern (and vernal) undertakings and notice the equalization of days and whether the star (culminating at nightfall) was the middle constellation of the bird, in order to hit the centre of mid-spring; he might also observe whether the people began to disperse abroad and whether birds and beasts were beginning to pair. He commanded He's third brother to reside at the southern border (the region of Cochin-China) and adjust and arrange the southern or summer transformation and respectfully notice the extreme limit of the shadow when the days attain their utmost length and the star in the zenith that is denominated Fire (heart of Scorpio, culminated on eve of summer solstice), in order to fix the exact period of mid-summer, when the people disperse themselves more widely and the birds and beasts begin to moult and cast their skins. He then distinctly commanded

Ho's youngest brother to dwell in the west, at a place called the Dark Valley, where he might respectfully attend the setting sun and equalize and adjust the western (or autumnal) completions, notice the equalizations of the nights and see whether the culminating star was Emptiness (Beta in Aquarius, which culminated at autumnal equinox which was the period at the centre of the dark principle in nature) in order to adjust the mid-autumn, when the people would be more at ease and the birds and beasts would be sleek and plump. He further directed Ho's third brother to dwell at the northern region, called the dismal city, where he might properly examine the reiterations and alterations and see whether, when the days were shortest, the culminating star was Pleiades (this culminates in the evening at winter solstice, which is the extreme of dark principle in nature and midnight seat of that principle) in order to adjust midwinter, when the people would remain at home and the birds and beasts get their down and hair. Thus careful was the sage in reverently observing heaven and labouring diligently for the people, in order that his plans might not contradict the designs of heaven nor the government miss the proper season for human labour." It is further said that "the bright influence (of Yaou's qualities) was felt through the four quarters (of the land) and reached to (heaven) above and (earth) beneath" (Shu King, book I, p. 32). Legge cites Pritchard's (Savilian Professor, Oxford University) chart as a proof of the correctness of the chronology which places Yâou in the 24th century B.C. The precession of the equinoxes [pg 291] was not known in China until more than 2,500 years after the time assigned to Yaou.

Pausing to renew the foregoing data, it is with particular satisfaction that I point out how clearly they reveal the basis and origin of the "Quadriform Constitution" and idea of central government. In China the pole star is designated as the Imperial Ruler of Heaven and a temple to the God of the North Star stands in the sacred enclosure which marks the centre of the empire. The

opposite positions assumed by Ursa Major at nightfall divide the year into four quarters and this quadruplicate division caused by rotation, assuming absolute dominion over the native mind, is applied to heaven and earth and pervades every detail of civil and religious government, as in ancient America.

Forced to recognize that the primitive inhabitants of China and America derived their first principles of organization from the identical light-giving source, a fact which also indicates a community of race and of place of origin, let us now review some data which prove that the two civilizations must have been separated and isolated from each other at an extremely remote period of time.

Certain conceptions, common to all primitive people, were shared by the Chinese and Mexicans, one of these being the belief that the earth was flat and square. The name for a year in ancient Mexican was xiuitl, literally, grass, and this was represented in the picture writings by a bunch of young blades of some sort of grass, possibly maize-shoots. “The earliest written Chinese character for a year represented a stalk of wheat.... In the ancient work entitled the San Fun, part of which was probably written in the 23d century B.C., there is evidence that among some of the aboriginal tribes of China the year, as among the Egyptians and some of the people of India, was divided into three periods, known as the grass-springing, tree-reigning and tree-decaying periods. Under the higher culture of the Chinese these divisions disappeared and the twelve months became the recognized parts of the year” (Douglas, China, pp. 269 and 310). Amongst the Mexican month-names there are also some which allude to such regularly recurring and impressive natural phenomena as the sprouting of trees and the appearance of verdure or springing of the maize, etc.

An indication as to what was the most ancient and primitive method of rotation employed seems afforded by the Chinese description how, for governmental purposes,

the five-year period was [pg 292] adopted, one year pertaining to the emperor or central ruler and the following four to the quarters of the empire. An analogous employment of a quinary period as a means of obtaining a rotation of contribution from the four quarters of the empire to its metropolis, identified with the first day, is discernible in the Mexican institution of the macuil-tianquiztli, or five-day market, by which means the entire year was divided into five-day groups.

A study of the ancient Chinese calendar furnishes, moreover, an indication of the way in which the numeral 12 came to be recognized and adopted by primitive people. It is obvious that the early astronomers, having determined the length of the year by observing Ursa Major at nightfall, recognized that, during the period required for its annual complete revolution around the pole star, there regularly appeared twelve new moons. In China, at a remote period, a division of the year into "months was adopted, the early names of which have, according to the author of the earliest Chinese dictionary, the Urhye, been lost." "The modern Chinese year is lunar in its divisions, though regulated by the sun in so far that New Year's day is made to fall on the first new moon after the sun enters Aquarius and varies between 21st January and 19th of February" (Douglas, *op. cit.* p. 258). It would seem as though some fresh impulse, or institution of moon-cult, had influenced Shun, Yaou's successor, to reorganize the empire, which had been simply divided into quarters, and subdivide it into $4 \times 3 = 12$ districts.

Another interesting evolution of a numerical system, the origin of which can be traced to the four positions and seven stars of Ursa Major, is discernible in the Chinese zodiac. This, the earliest division of the ecliptic in China, consists of "28 lunar mansions, which are grouped together in four classes of seven each, assigned to the four quarters of heaven" (Legge, vol. III, p. 24, Introduction to Shu-King). It is to the observation of precisely the same impressive phenomena that the universal adoption of the

numbers 12, 4 and 7 may safely be attributed. The further division, by Emperor Yu, of the Chinese Empire into five domains or zones, finds an interesting parallelism in Mexico and Central America.

Mr. Wickersham describes Yu's division in the following concise manner: “The Imperial domain extended five hundred le in every direction from the capital, north, south, east and west, and was therefore one thousand le square, with its sides facing the cardinal [pg 293] points; the domain of the Nobles was an additional territory five hundred le broad on each of the four sides; the Peace-securing domain was then added, beyond which came the domain of Restraint, and at the greatest extremity the Wild domain. By this arrangement, the sacred center, the capital where the ‘Son of Heaven’ resided, was completely surrounded by loyal officials and subjects; the most loyal were nearest the center while at the farthest extremity were the wild and dangerous tribes and criminals undergoing the greater banishment. By this square method of disposing of the population, the quiet and orderly members of society were required to reside near the capital, while the turbulent were placed toward the outer limits, serving to free the center from turmoil and to act as a barrier to the inroads of outside barbarians.”

Among the Zuñis and Mexicans the spider's web is met with as an image of the division of their territory into quarters, half-quarters and concentric circles.

In Peru a record exists of a system of irrigation by which means the territory surrounding the capital was divided into alternate zones of land and water. Mexico and Central America furnish records too scattered to be compiled here, showing that somewhat as in China, the territory of the state was divided into the domains of the rulers, the lords, the people, and the territory of war.

After having duly considered some salient points of fundamental agreement which are to be found underlying the widely different later growths of the Chinese and

ancient American systems, let us now examine and analyze some of the most remarkable points of divergence.

The following tables, placed in juxtaposition, afford an opportunity of recognizing the striking and significant fact that, whereas the Mexicans and Zuñis classified air, water, fire and earth as "elements," the Chinese ignored air and identified wood and metal as their fourth and fifth elements.

	Mexico.	Zuni.	China.
North.	Red, Fire.	Yellow, Air.	Black, Water.
West.	Yellow, Earth.	Blue, Water.	White, Metal.
South.	Blue, Air.	Red, Fire.	Red, Fire.
East.	Green, Water.	White, Earth.	Blue, Wood.
Middle.	Many colors.	Middle, All colors.	Yellow, Earth.

[pg 294]
A deep-seated analogy may, however, be traced between the Chinese assignment of "wood" to the Middle and the Maya-Mexican employment of the tree as a symbol of life proceeding from the centre, stretching above and below and spreading its branches to the four quarters. It remains to be seen how far the Chinese assignment of "wood" to the Middle approached the American tree-symbolism.

The marked differentiation in the assignment of colors to the cardinal points in the above comparative table leads to the conclusion that their choice had been arbitrary and was possibly influenced by local environment, the possibility of obtaining certain pigments in given directions, or by language, the names of certain colors or elements resembling in sound those of the cardinal points, etc.[83]

After studying the above comparative lists it becomes clear that, whilst the fundamental principle of the system was identical, the mode of carrying it out was different in China and America, a fact which indicates independence

and isolation at the period when elements and colors, etc., were chosen and assigned to the directions in space. An analogous instance of divergence is shown in the following assignment of parts of the body to the cardinal points:

CHINESE.

North	Kidneys.
West	Lungs.
South	Heart.
East	Liver.
Middle	Stomach.
Zenith	——
Nadir	——

[pg 295]
Although it differs in detail, an analogous association of various parts of the body with the directions in space and the twenty calendar-signs, may be seen in a Mexican Codex. In this case, however, it is clear that the origin of this assignment was the natural association between the "complete finger-and-toe count = a complete man = 20 = with the 20 or complete count of the day signs." I have already produced evidences showing that the human figure was employed in primitive times to represent "a complete count, or 20 years." When chieftains were elected for a term of twenty years and their names were given to their period of office, the full-length portrait of the chief was sculptured on a stela and he thus represented, primarily, "a complete count," an epoch (see p. 221). Portraiture and accompanying inscriptions were obviously later developments, but the primitive employment of the human form as a means of expressing a fixed number, is one that claims consideration and will undoubtedly lead to a wider comprehension of the significance of the human form in aboriginal archaic sculpture. The curious conventionalized representations of Mictlantecuhtli, in which the body and limbs almost simulate a swastika,

have already been discussed, as well as the inference that they symbolized Polaris and the four positions of Ursa Major = the Middle and Four Quarters.

The most striking confirmation of this inference is furnished by Mr. Cushing's account that the Zuñis associated the directions in space with the imaginary form of a quadruped as follows:

ZUNI.

North	Right fore foot.
West	Left fore foot.
South	Right hind leg.
East	Left hind leg.
Middle	Heart.
Zenith	Head.
Nadir	Tail.

It is obvious from this that, to a Zuñi, the State and its subdivisions appear under the allegorical form of a quadruped and I have traced the identical mode of thought in Mexico and Central [pg 296] America[84] where, owing to linguistic associations, an ocelot is in some instances employed as a symbol for a State whilst in others the form of an eagle was adopted for the same purpose (see Appendix I).

To sum up: in ancient America the human form was employed to represent quadripartite division and the complete finger-and-toe count = 20, and as such became emblematic of the quadriform plan of universal application. Owing to a variety of circumstances and suggestions arising from language, the figure of a quadruped = ocelot was adopted as a symbol of the State by some tribes and the form of an eagle by others, the inference being that the ocelot was identified with the cult of the earth and night and the eagle with the cult of heaven and day. While the ocelot and eagle occur in the codices as representative of two distinct classes or divisions of the State, there are some interesting and

suggestive representations, to which I shall revert, of figures combining the form and claws of an ocelot with the wings and head of a bird, evidently symbolical of a union of the Above and Below, or Heaven and Earth.

Having furnished the explanation that ancient America affords of the origin of the primitive employment of the human body, the quadruped and bird in allegory and the assignment of their various parts to points in space, it is to Chinese scholars that I appeal for enlightenment as to the origin and development of the same idea in China. To me one point of difference between the Chinese and American list is very striking. In America although the navel was also regarded as a symbol, the heart, associated with the Middle, had obviously been recognized as the centre or seat of life, and the tearing out of the heart had become the salient feature in human sacrifices. In China the stomach is assigned to the Middle, and death by disembowelling was customary.

An analysis of the Chinese and Mexican numerical systems likewise proves that their ultimate development was strikingly [pg 297] different, although it is easy to recognize how both might have arisen from the same source. Thus whilst the Mexican and Central American calendar (and social organization) is based on the combination of 20 characters with 13 numerals, the Chinese “took two sets of 12 and 10 characters respectively and combined them.” The outcome of the combination of 20 with 13 affords a marked contrast to that of 12 with 10. In the Mexican calendar, as I have shown, there were fixed periods of 5 days (associated with the Middle and Four Quarters) and of 20 days, the latter being “one complete count” of days, based on the primitive finger-and-toe count. In the Mexican social organization there were 4 principal and 16 minor clans of people, known by 20 signs. Each of these in turn was subdivided into 13 categories associated with the directions in space. By mentioning a sign and a numeral, up to 13, the exact subdivision of a clan was clearly

designated while the direction of its residence, as regards the capital, was likewise conveyed. A day was associated with each of these 20 clans and their respective 13 subdivisions, and the unit of time produced by the combination of the 20 day-signs and 13 numerals was the period of 260 days, which held 4×65 days and was approximately equivalent to nine lunations and to the period of human gestation. The 260-day period, as will be more clearly shown in my monograph on the Mexican Calendar System, constituted the religious year of the "Sons or Lords of Night" in their cult of the Moon, the Nocturnal Heaven, Earth and the Female principle.

Simultaneously with this lunar calendar, in which each moon had a different name, a civil or solar calendar was employed consisting of 365 days, divided into 17 periods of 20 and 1 period of 25 days. These years bore the names of four different signs in rotation combined with 13 numerals.[85] The cycles, thus produced, consisted of $4 \times 13 = 52$ years, 20, or a "complete count" of which, produced the great cycle of 1040 years.

Totally different from this numerical system is that of the Chinese, who "divided the year into 12 months of 29 and 30 days each and [pg 298] as these periods represent with sufficient exactness the lunar month, it follows that the new moon falls on the 1st of every month and that on the 15th the moon is at its full. The month is thus associated with the moon and is called by the same name and written with the same hieroglyphic.... The Chinese also divide the year by seasons and recognize 8 main divisions and 16 subsidiary ones, which correspond to the days on which the sun enters the 1st and 15th degrees of a zodiacal sign ..." (Douglas, China, p. 269). Whilst it is customary in China for years to be designated at times by the Neen-haou or title of an emperor and an event to be alluded to as having occurred in such or such a year of a certain ruler's reign, the mode of computing years is by reckoning by sexagenary cycles. According to native historians this system was introduced by the emperor

Hwang-te in the year 2637 B.C. which was the first year of the first cycle, and it has continued in use until the present day. In this system a group of ten characters, termed the “celestial stems” and associated with the male principle, is combined with a group of twelve characters, named the “terrestrial branches” and associated with the female principle. An unbroken series of sixty-year cycles have thus been formed, in the seventy-sixth of which the Chinese are now living. According to Biot, the calendar instituted by Hwang-te was a day-count only, and year-cycles were not in use until after the Christian era, having been introduced from India.

There are indications which will be more fully discussed further on, showing that the primitive day-count consisted of the seven-day period, each day being consecrated to one of the seven bright stars of Ursa Major, called the “Seven Regulators.”

It is well known that Taouism was founded by Laou-tsze, who was a contemporary of Confucius and thus “lived in the sixth century before Christ, a hundred years later than Buddha and a hundred years earlier than Socrates. A mystery hangs over Laou-tsze's history ... and there is the possibility that he was a foreigner, or perhaps a member of an aboriginal frontier tribe” (Legge).

The Shoo-king, the national book of history edited by Confucius, enables us to follow the development of the state religion and government, the basis of which was Heaven and its imperial ruler, the pole-star. The almost mythical emperor Yaou, whose reign began in B.C. 2357, “imitated Heaven, harmonized the various states of [pg 299] the empire and divided it into four quarters.” His successor, Shun, extended its organization, but it was Yü, the third ruler, in the thirteenth year of his reign (B.C. 1121), who, acknowledging his ignorance of them “went to inquire of Kê-tsze” about “the great plan of the 9 classifications and the arrangement of the invariable principles.” It is also stated in the Shoo-King, that it was

“Heaven [who] gave to Yü the great plan and the 9 classifications, so that the invariable principles were arranged, consisting of the 5 elements, the 8 regulations, and the 5 arrangers.”

In China the day is divided into periods equivalent to 120 minutes = 2 hours. “In speaking of these periods, however, the practice which was originally introduced into China by the Mongols, of substituting for the twelve stems, the names of the twelve animals which are supposed to be symbolical of them, is commonly adopted. Thus the 1st period, that between 11 P. M. and 1 A. M., is known as the Rat, period 2 as the Ox, 3 Tiger, 4 Hare, 5 Dragon, 6 Serpent, 7 Horse, 8 Sheep, 9 Monkey, 10 Cock, 11 Dog, 12 Boar. The night is divided into five watches, each of two hours duration....” (Douglas, China, p. 296).

The ancient Mexican priest-astronomers marked three divisions of the night by burning incense in honor of certain stars, after dusk, at midnight and at break of day.

The mention of the introduction into China of the Mongolian hour-computation leads to a consideration of the origin of what is known as the Chinese civilization. It is, of course, impossible to do more here than touch upon the various and opposite views held on this important question by leading European and Chinese scholars. On the one hand, “the existence of the Chinese civilization in the east of Asia, separated from early centres by the whole width of Asia and intervening trackless deserts, has seemed a problem to many students and led to the conclusion of its sporadic growth, an idea which is fostered by Chinese historians.” (See Douglas on Chinese Culture and Civilization, 1890.) On the other hand, it is maintained that the Chinese entered China from Tartary and were emigrants from Babylonia who abandoned their country when Nakhunte, king of Susiana, conquered Babylon in 2295 B.C.

According to Legge, the Chinese came through central Asia about 2200 B.C. and founded colonies on the banks

of the Yellow river and its tributaries. These colonists founded a Middle Kingdom in China, a federation of states with a chief supreme ruler, on the [pg 300] pattern of Babylonia. They introduced the art of writing and established a calendar with a year of 360 days and an intercalary month.

It is stated that the names of the five planets of the Chinese, besides the Sun and Moon, were called by the same names as in Babylon. (See Edkins *op. cit.*, also The old Babylonian characters and their derivatives, Terrien de Lacouperie, Babylonian and Oriental Record, March, 1888.) Some authorities are inclined to consider Chinese astronomy as derived from the Chaldean; whilst others have instituted comparisons between it and the Hindoo system. The results of the latter line of investigation are set forth by J. F. Davis in the following passage of his work on the Chinese (London, 1836, vol. II., p. 304): "A comparison between the ancient system of the Chinese and of Hindoo astronomy is rendered somewhat perplexing by the fact that, while there are some points of resemblance there are others in which they essentially differ. Both of them have twenty-eight lunar mansions and a cycle of sixty years, but a careful observation detects some important distinctions: the Hindoo cycle is a cycle of Jupiter while that of the Chinese is a solar cycle, and the twenty-eight constellations of the Hindoos are nearly all of them equal divisions of the great circle, consisting of about 13° each, while the Chinese constellations are extremely unequal, varying from 30° to less than 1°. The author's father, in conjunction with Sir William Jones and Messrs. Colebrook and Bentley, proved that the Hindoo astronomy did not go farther than the calculation of eclipses and some other changes with the rules and tables for performing the same. Besides their lunar zodiac of twenty-eight mansions, the Hindoos (unlike the Chinese) have the solar, including twelve signs perfectly identical with ours, and demonstrating, in that respect, a common origin."

As we know from Herodotus, the Egyptians had a week of seven days and it is remarkable that the Hindoos had anciently the same, the planetary names being given to the days in exactly the same order as among ourselves, except that Friday was the first. The Chinese reckon five planets to the exclusion of the sun and moon, but they give the name of one of their twenty-eight lunar mansions successively to each day of the year in a perpetual rotation, without regard to the moon's changes; so that the same four out of the twenty-eight invariably fall on our Sundays and [pg 301] constitute, as it were, perpetual *Sunday letters*. A native Chinese first remarked this odd fact to the author, and on examination it proved perfectly correct.

To the above it may be well to add the following comparison between the Chinese, Tibetan and Indian systems: “The Tibetans received astronomical science from India and China ... the Chinese taught them the science of divination. Both systems are based upon a unit of sixty years, differing, however, in modes of denominating years. In these cycles of sixty years, when numbered according to the Indian principle, each year has a particular name; but in the Chinese method the names used in the Chinese duodecimal cycle are used five times, coupled with the five elements or their respective colors, each of the latter introduced in the series twice in immediate succession” (Schlagintweit, Buddhism in Thibet, p. 27). According to Humboldt, “the Tzihichen, or public calculators of Lhassa take pride in the fact that years of the same name only return about every two centuries. They combine 15 signs: five masculine, five feminine and five neuter, with twelve signs of the zodiac” (Monuments des peuples de l'Amérique I, p. 386).

With regard to the ancient connection between China and India it is well to recall the well-known fact that Buddhism did not enter China from India until the first century of the Christian era and had a prolonged struggle for existence and influence in the country during several

centuries.

The Buddhist missionaries introduced the mode of calculating cycles of years into China, according to Biot, who states that the primitive calendar of the Chinese, instituted by Hwang-te, the first king of the "Flowery land," was a day-count only.

Let us briefly enumerate some bare facts bearing upon the age and development of the state, religion and government of ancient China. In 2697 B.C. Hwang-te (the Babylonian?) erected a temple to the honor of Shang-te, the deity associated with the earliest traditions of the Chinese race. Upon the authority of a Chinaman of the present day it is stated that "the word Shang-te means supreme ruler; but, as it is not lawful to use this name lightly, Chinamen usually name the supreme ruler by his residence, which is Tien = heaven" (Edkins, *op. cit.* p. 71).

An extremely instructive light is thrown upon the Taouist conception of a supreme being or ruler, by the following episode [pg 302] related by Mr. Edkins in his "Religion in China" (p. 109). "I met [in 1872] on one occasion a schoolmaster from the neighborhood of Chapoo.... The inquiry was put to him, Who is the Lord of heaven and earth? He replied that he knew none but the pole-star, called in the Chinese language Teen-hwang-ta-te, the great imperial ruler of heaven. It was stated to him that it was a matter very much to be regretted that he should hold such views as this of the Supreme Being."

In this connection and with special reference to the title Tien = heaven, employed by the Chinese in addressing the supreme ruler, I must quote T. de Lacouperie's opinion that the Akkadian name = Din-gira and symbol for God, the eight-pointed star, was the origin of Ti, a Chinese character with the same meaning and sound. Mr. C. J. Ball (The New Akkadian Proceedings of the Society of Biblical Archaeology) explains the Akkadian Din-gira as composed of di = to shine and gira = heaven and that thus the Accadian name for God is "the shining one of

heaven," which explains why the ideogram is a star. According to Mr. K. Douglas (p. 171) "Mr. Ball has practically demonstrated that the Chinese and Akkadian are the same tongue and that everywhere in China we are reminded of that great centre of civilization in Babylonia."

An investigation of the Taouist religion reveals that it consists chiefly of star-worship, stars being deemed "divine." "Among the liturgical works used by the priests of Taou, one of the commonest consists of prayers to Tow-moo, a female divinity supposed to reside in the Great Bear. A part of the same constellation is worshipped as a male spirit under the name of Kwei-sing" (Edkins).

A name closely resembling the latter in sound, Tseih-ching, and meaning the "Seven Regulators" is now applied to the Sun, Moon, Mercury, Venus, Mars, Jupiter and Saturn. In ancient times, however, according to native authorities, "this term was used to designate the seven bright stars of Ursa Major which subsequently, by an astrological device, were associated with the seven planets; so, that, by metonymy, the latter became the established meaning."[86]

[pg 303]
The association of the term "Regulators" with Septentriones is particularly interesting because the seven-day period has been employed in China from time immemorial, the seventh day being invariably marked by the ancient character mih, which means "quiet, secret or silent." In the modern Chinese almanacs and astrological works "the mih days are marked by the four constellations which correspond among the seven planets to the principal one among them, the Sun" (*cf.* Wylie, On the Knowledge of a weekly Sabbath in China, *op. cit.* p. 86). I am strongly tempted to refer the origin of the Chinese mih or quiet day, on which rest was generally observed, to that remote period of time when, to primitive observers, one of the stars in Ursa Major would

have appeared more closely associated with immovability and nearer the polar axis than its companions (see pp. 20 and 21).

If we pause here to review the preceding data we are particularly struck at the unanimity of evidence establishing that even the most ancient form of civilization and religion was not indigenous to China, but was carried there by colonists from distant parts, presumably from Babylonia. The latter conclusion finds a strong support in the undeniable fact that during subsequent centuries a steady stream of emigration has carried colonists of different nationalities into the heart of China.

Buddhism entered China from India in the first century of the Christian era. Alexander Wylie tells us that "according to the testimony of one of the stone tablets in the synagogue at Kai-fung foo, the Israelites first entered China during the Han dynasty" and we are further told in the letters of the Jesuits that "they came during the reign of Ming-ti (A.D. 58-75) from Si-yih, *i. e.* the western regions. It appears by all that can be gathered from them that this western country is Persia and that they came by Khorasan and Samarcand. They have many Persian words in their language and they long preserved a great intercourse with that country" (The Israelites in China, Wylie's Chinese Researches, Shanghai, 1897).

Some other interesting facts related by Wylie deserve mention here. In translating the name of Jehovah into Chinese, the Israelites [pg 304] in China, to the present day, say Teen, "just as the scholars of China do when they explain their term Shang-te." We thus observe a growing practice in western Asia, among the Hebrews, of designating Jehovah as the God of Heaven and sometimes as Heaven. In Chinese history distinct mention is made of a foreign sect distinguished as the "worshippers of Heaven," spoken of as existing in China at the beginning of the sixth century. Wylie has surmised that the Hebrews

were thus designated and remarks “that this name, as the designation of a foreign sect, is the more remarkable inasmuch as the state ritual of China has designated the Supreme by the name of Heaven, from the earliest times down to the present day.”

It is a curious reflection that it may possibly have been due to a gross misconception of the Hebrew religion on the part of the Chinese and a supposed identity of worship that caused the Israelites to be treated with such tolerance and hospitality in China that their colony situated in the heart of the country still exists to the present day. It is, in fact, related of the Dowager Empress Ling, in the first half of the sixth century, that she “abolished the various corrupt systems of religious worship, excepting that of the foreign tien-spirit.” A strange insight into the Chinese view of the Christian religion is likewise afforded by the following native documents cited by Wylie: “Now Jesus, the Lord of Heaven, is worshipped by the Europeans. They say that this is the ancient religion of Ta-tsin (Syria).”

The following remarkable passages occur on the famous Nestorian tablet, dated A.D. 781, which eulogizes the propagation of the “Illustrious [Christian] Religion” in China. This tablet was discovered by the Jesuit fathers in 1625 and, after its authenticity had been violently assailed, Wylie's painstaking researches have now vindicated its genuineness.[87] The following extracts are from the preface engraved upon it and composed by King-tsing, a priest of the Syrian Church: “... Our eternal, true lord God.... He appointed the cross as the means of determining the four cardinal points, he moved the original spirit and produced the two principles of nature; the sombre void was changed and heaven and earth were opened out; the sun and moon revolved and day and night commenced; having perfected all inferior objects, he then made the first man ... the illustrious and honorable Messiah, [pg 305] veiling his true dignity, appeared in the world as a man ... a bright star

announced the felicitous event [of his birth] ... he fixed the extent of the eight boundaries.... As a seal [his disciples] hold the cross, whose influence is reflected in every direction uniting all without distinction. As they strike the wood the fame of their benevolence is diffused abroad; worshipping towards the east they hasten on the way to life and glory ... they do not keep slaves, but put noble and mean all on an equality; they do not amass wealth but cast all their property into the common stock."

Referring the matter to oriental scholars for further discussion I merely note here the astonishing fact that in China, in the seventh century of our era, the supreme God of the Hebrews and Christians was spoken of as the God of Heaven, or Heaven, that He is credited with having created the two principles of nature besides heaven and earth and instituted the cross as "a means of determining the cardinal points."

It is likewise strange to find the "Heen or Toen foreigners" credited in a sixteenth-century native cyclopædia, with having introduced into China a system of astronomy denominated the "Four Heavens," and obviously based on a quadruplicate division of the Heaven similar to the division of the empire instituted by Yaou (Wylie, Israelites in China, *op. cit.* p. 19).

The current Chinese name for Christians has been "Cross-worshippers," and it is odd to note that the ancient Chinese seem to have regarded the symbolism of the Christian cross as closely identical with that of their swastika, and to have concluded that the foreign "Heaven" religion rested on the same basis as theirs.

Referring the reader to Wylie's valuable researches and Edkins' Religion in China for information concerning the establishment of colonies of Manicheans, Mohammedans and of successive Christian missions, etc., in China, I shall but quote the following passage from Marco Polo's travels (pp. 167 and 168) because it shows how the doctrine of the quadruplicate division of all things, celestial and

terrestrial, led to a broad tolerance of opinion in the famous Tartar prince, Kubla Khan, who, in 1260, at Kanbalu = Peking, honored the Christian festivals. "And he observed the same at the festivals of the Saracens, Jews and idolaters. Upon being asked his motive for this conduct, he said: 'There are four great Prophets who are reverenced and worshipped by the different [pg 306] classes of mankind. The Christians regard Jesus Christ as their divinity; the Saracens, Mahomet; the Jews, Moses; and the idolaters Sagomombarkan (Buddha) the most eminent amongst their idols. I do honor and show respect to all of the four, and invoke to my aid whichever of them is in truth supreme in heaven.' " This attitude of mind and that of the Chinese towards the Christian Cross can only be fully understood and appreciated when it is realized that their "imperial ruler of Heaven" was the pole-star and that the Ursa Major described each year the sign of a cross in the heaven which ever impressed upon them quadruplicate division and differentiation and the union of four in one. It is doubtlessly owing to the same reason that the Chinaman of today finds it possible to believe in, at once, the three great national religions which exist in China. Edkins has explained that, whereas "Confucianism speaks to the moral nature, Taouism is materialistic and Buddhism is metaphysical; thus, they are supplemental to each other and are able to co-exist without being mutually destructive" (*op. cit.* p. 60). Somewhat apart from these three state religions and embodying the most ancient ideas and traditions of the race, exists the elaborate and solemn "Imperial worship," the study of which Edkins designates as "specially interesting because it takes us back to the early history of the Chinese people and introduces us to many striking points of comparison with the patriarchal religion of the Old Testament and with the worship of the kings of Nineveh, Babylon and Egypt." The same authority states that "the account given by Herodotus of the religion of the ancient Persians shows that it consisted in much the same usages as those now found in Chinese Imperial worship" (*op. cit.* pp. 6, 22, 18 and 30). In the preceding pages it has been shown that

the fundamental principles of the primitive religions of China and America were identical, but that their subsequent stages of development or evolution were strikingly divergent. The following study of certain details connected with the “Imperial worship” brings out a marked differentiation in the Chinese and Mexican cult of heaven and earth.

The altar of Heaven at Peking consists of three circular marble terraces, the uppermost of which is paved with eighty-one stones arranged in circles. It is on a round stone in the centre of these circles that the Emperor kneels and is considered to occupy the centre of the earth. In the worship of Heaven, offerings are made [pg 307] to the heavenly bodies, the Sun, Moon, the Pole-star, Great Bear, five planets and twenty-eight constellations. The worship at the altar of Earth consists of offerings to the mountains, rivers and seas.

This arrangement is strikingly unlike that of the ancient Mexicans, who associated the sun only with the Above, the male principle and the blue heaven, and worshipped the nocturnal heaven, the moon and stars, with the earth, darkness and the female principle.

It is interesting to note the marked effect, produced by the two different modes of classification, upon the subsequent development of the state religions of China and Mexico. In the latter country where the contrast of light and darkness and of the duality of nature seems to have been most powerfully felt, the gradual institution, on a footing of equality of a diurnal masculine and nocturnal feminine cult or of a separate sun and moon worship, led to the formation of two equally powerful castes of priest-astronomers who devised their respective calendars and cults and ultimately stood in open rivalry and antagonism towards each other, as children of heaven and light: sun worshippers; and children of earth and darkness: moon worshippers. In China, as the cult of earth was subordinate from the first and all heavenly bodies were included in the worship of Heaven, there was no opportunity for any rivalry to develop in the superior caste of astronomers who jointly ruled, instituted their

calendar and altered it under influences emanating from India.

Heaven and Earth were jointly worshipped at the same altar until A.D. 1531, when it was decreed that there should be separate altars and that the worship of Earth should be separately conducted (Edkins). At the same time, while the Emperor acts as the high-priest of Heaven, we find associated with him, from remote antiquity, the Empress, the representative of the Earth-mother.

The fact that the roll of Chinese emperors records heavenly and earthly, light and sombre, emperors, and that empresses have repeatedly occupied the throne, seems to indicate that, in remote antiquity, a male and a female line of rulers, personifying the dual principles of nature, alternately assumed prominence in power. This natural outgrowth of the cult of heaven and earth, which has its parallel in Mexico, seems to afford an explanation of the usurpation and retention of power exercised by the present Empress [pg 308] of China, who is probably ruling in her own right, as the representative of the earth or dark principle. As such she is the exact equivalent to the ancient Mexican Cihua-coatl, or "Woman-serpent;" and modern China supplies us with an episode in the development of the fundamental set of ideas it holds in common with ancient America, closely resembling the historical dissension which led in ancient Mexico to a separation of the two cults and the establishment of two separate governments, under their respective male and female rulers.

Although the difference in primitive Chinese and Mexican definitions of heaven and earth worship is evidently accountable for this fact, it is nevertheless interesting to note that it was in A.D. 1531 only that the Chinese cult of heaven and earth separated and the process of disintegration began to be set into activity. From an evolutionary point of view, the imperial religion of China stands to-day at a far less advanced stage of development

than the prehistoric Mexican state religion. This circumstance might be passed over without comment did it not strikingly coincide with the undeniable fact that the essentially inorganic and monosyllabic Chinese language stands far lower in the scale of linguistic development than the incorporative and polysynthetic American languages, the most perfected types of which are the Maya and the beautiful and refined Nahuatl which abounds in delicate metaphors and formulas of exquisite politeness, indicative of the high degree of culture and antiquity of the native race.

If the preceding comparative study of the Chinese and ancient Mexican civilizations be briefly summarized, the result is as follows: Both civilizations alike rest on a foundation of pole-star worship and the set of ideas which naturally proceed from this *i. e.*, central impartial power extending in constant rotation to the four quarters, figured by the swastika, and the recognition of the all-pervading duality of nature. These primitive concepts and their inevitable outgrowths, which might naturally occur to human beings of the same grade of intellect in similar conditions and circumstances and be most powerfully impressed upon the mind of man in circumpolar latitudes beside a few resemblances in names, which I shall proceed to point out, are nearly all that the Chinese and ancient Mexicans may be safely said to have had in common. At a date obviously anterior to 2356 B.C., when they were formulated, the Chinese had made definitions [pg 309] of heaven and earth and of the five elements which radically differ from those of the ancient Mexicans and Mayas.

The Chinese numerical system or calendar, though equally based on rotation, and known to have been modified by contact with India, is essentially different from the American. When carefully compared it must be acknowledged that the Mexican is by far the more complex and highly developed, and the same may be said of the social organization, which was controlled by the

calendar. A comparison between the Chinese and American languages in general proves, moreover, that they differ not only in sound, but in form and in grade of development, the Chinese being the lower in the scale. To the above divergences we must add the fact that each people evolved distinct national customs and costumes, foods and drinks, industries, arts and forms of architecture, so markedly characteristic as to be clearly distinguishable.

In conclusion a few words about the swastika in China (ouan). Its Chinese name is wan, which signifies "ten thousand," or "all," also "many," a great number. At the time of the Empress Wu (A.D. 684-704) the swastika in a circle signified "the sun;" half a swastika in the circle "the moon," and the plain circle "the star." Deferring comment I emphasize here the fact that the word wan resembles kwan = equal earth or land, and that it signifies an entity composed of ten thousand parts. A proof that the wan was also associated with the idea of time is given by the modern use of the Chinese swastika to signify "long life," "many years," *i. e.*, a complete life, a complete cycle of years.

A prolonged study of the most ancient civilization of America, which centred in Mexico and Central America and thence spread northward and southward, has so deeply convinced me of its great antiquity, isolation and prolonged period of independent evolution that, when Asiatic origin and influence are discussed, I am tempted to take the national food-plant of America, the maize, and, placing it beside the rice-plant of China, invite comparisons to be made between them.

JAPAN.

It is a curious fact that, although it is recognized that the junks which have been repeatedly driven by storms upon the Pacific coast have generally been Japanese, no searching comparison between the culture of ancient America and that of Japan [pg 310] has as yet been

published; although it is believed by many that it may have been to the occupants of the wrecked junks that the American race owed its civilization. The curious idea seems to prevail among some writers, that purely Chinese influence was conveyed by Japanese fishermen and sailors to the dwellers on American soil. It does not seem to be sufficiently recognized that the differences between Japanese and Chinese civilizations are as great as that between their different languages and writings, and that direct influence derived from Japan, for many centuries back would have left traces so characteristic as to be easily distinguished from the effects of direct influence from China.

In the third century of the Christian era the Japanese empire was founded on a plan derived from Corea and soon became known to the Chinese and dwellers on the main land as Dschi-Poennkwo, or Zipanco, the "land of the east, or of the rising sun." The Japanese themselves, however, regarded their empire as the "great centre of the world," *i. e.* a "Middle Kingdom." The mythical birthplace of the Japanese race and the cradle of its civilization is said to have been the island of the Congealed Drop, which was formerly at the North Pole, but subsequently removed to its present position. How this happened is not told.[88]

The most superficial examination shows that the fundamental scheme of the Japanese empire was the same as that of China and other Asiatic countries. Its centre was the island Hon-shiu, Hondo or Nippon, on which was situated the ancient Fu or capital, named Yedo; the modern Tokio in the vicinity of Fusiyama, the sacred mountain and reputed centre of the world. The entire land or Han was originally divided into five provinces collectively named the Go-kinai (the word go like the Maya ho, signifying five), the territorial divisions and presumably consisting of four quarters and the capital. Light is thrown upon the extent of this quinary organization by the fact that, in ancient Japan, time was

divided into five-day periods, by official days of rest, which fell on the 1st, 6th, 11th, 16th, 21st, and 26th days of each month. The [pg 311] computation of time by cycles, which will be treated further in a separate monograph, also prevailed in Japan, as might be expected, since this method was a main feature of the definite scheme on which the entire empire was founded.

In accord with this plan the population was divided into four classes, consisting of the Haimin = the people; the warriors or Samurai, the Kazoku, literally the flower of families, the nobility. All members of the imperial family formed a fourth caste and above all stood the Emperor, the central ruler, the divine descendant of the sun-goddess Amaterasu. Evidences that an extension and fresh territorial division of the empire took place at one time seem preserved in the ancient Japanese name for Japan: Oya-shima = the eight islands. It is likewise related that the Japanese creators, Izanajo and Izanami, built, in the centre of the world, an octagonal palace around a central pillar, the octagonal form having reference to the eight holy corners or points, the "Hak-kaku," or the cardinal points and half cardinal points. It is impossible to overlook the fact that by a similar method, but by means of four larger and four smaller rays, the field of the Mexican calendar star is divided into eight equal portions. It is a well-known fact that, in 1854, Japan was practically governed by two rulers: the Mikado or Tenno, of divine or "heavenly" descent, who led so secluded an existence that he was becoming a shadowy and invisible ruler, and the Shogun, the civil governor, who had become the terrestrial ruler *par excellence*, and whose power was in the ascendant. This state of affairs affords a most interesting object lesson, teaching how ancient empires gradually become divided and disintegrated under dual government and under the influence of rival cults. The ancient state religion or "Imperial worship" of Japan, the Shinto, was becoming as obsolete as the worldly power of its high-priest the Mikado, next to the growing ascendancy of Buddhism, supported by the

Shogunate. The original meaning of the Shinto sacred symbols appears to be lost. The mirror, placed on the altar, usually constituted the only visible sacred emblem. Another was the sword. It is claimed that the swastika came into Japan with Buddhism, but this is a point which demands a serious investigation of competent specialists. The above data, which are absurdly inadequate to the interest and importance of Japan, the seat of the most intellectual and progressive culture of Asia, are sufficient to show that in Japan, where the [pg 312] swastika is found, the quadruplicate state organization and fundamental plan were also carried out. My full purpose will only be fulfilled when the present deficient notes shall have stimulated the enquiry and research of students and Japanese scholars and led to the publication of all traces extant of the most ancient scheme of organization, government and calendar, as compared with those of ancient America.

As it is maintained that the Chinese and other eastern Asiatic people did not originate, but received their civilization from Babylonia, or another ancient centre, situated in western Asia, it obviously becomes an imperative necessity to carry the present investigation across the Asiatic continent into the heart of the Euphratean valley.

INDIA.

Being one of the ancient centres of civilization from which the Chinese are said to have derived theirs, India, the country where the swastika abounds, first arrests our attention. In support of the assertion I have already advanced, that the primitive symbol is always found accompanied by a set of ideas almost as ancient as itself, I have pleasure in transcribing the following detached but instructive and suggestive extracts from my note-book.

The fair Arya or Aryans, after about 2,000 B.C., penetrated India from the northwest. Arya means “those who command” or “the venerable.” The name Hindu or

Sindu was given to the Indian Aryans. Our knowledge of Hindu art begins in the third century B.C. and none of the present popular forms of Hindu religion are presumed to be earlier than the ninth century A.D. “It is well known that the Brahman system and faith were not developed by the Hindus till they had conquered the Ganges, Western and Southern India and there is no trace of this tradition or even of Brahma as a deity in the Vedas.”...

“The supreme god of antiquity was Indra ... next to and above whom was the mysterious god Varuna, the creator, who gave eternal laws which god and men were obliged to follow. He showed the stars their paths and gave each creature his qualities.... He is the sun by day and the stars at night”.... From these statements the duality of the creator and his power over both light and darkness alike, stand out clearly.

Another form of the supreme being was the sun god Surya, who [pg 313] was also named Savitri, the generator, Pushan = the feeder and Mithra = the light-god, who is called the watcher and ruler of the world and was associated with the wheel, which is termed “the most ancient symbol of divine power and dominion.”[89]

“In India the wheel was, moreover, connected with the title of a chakrayartin (from chakra = a wheel), the title meaning a supreme ruler or universal monarch, who ruled the four quarters of the world and on his coronation he had to drive his chariot or wheel to the four cardinal points to signify his conquest of them” (Wm. Simpson, Quarterly statement of Palestine Expl. Fund, 1895, p. 84). It is significant that “Mithra,” the god of the wheel, who was, as I shall show later on, likewise associated with the serpent, is represented with a chariot pulled by seven horses and thus to find the idea of centrifugal power, combined with the numeral seven and the conception of central rulership extending to the four quarters.

While the above passages afford an interesting insight into the ancient significance and symbolism of the

chariot, the use of which, with that of the throne was, originally, exclusively confined to the central supreme ruler, they also furnish a curious parallelism to the Chinese tours of inspection performed, by the emperor, to the four provinces in rotation.

The general application of the quadruplicate system is moreover shown by the fact that, from time immemorial, the population of India has been divided into four great castes, and these are associated with distinctive colors, the Sanscrit word for color, *varna*, signifying also caste. According to the native myth, Brahma created the Brahmin or ruling caste from his mouth, the warrior caste from his arms and hands, the merchant and agricultural caste from his hips and the artisan or lowest caste from the [pg 314] soles of his feet. The warrior caste was named Kschatria; the people the yellow, or Vaicya; the original, conquered inhabitants of India were named the black, or Sudra. The Brahman caste was above all these.

Concerning the origin of the Brahmans, it is related that "Manu was created ... he, in turn created ten great sages, the ancestors of the Brahmans. These created *seven* other Manus or spiritual princes, the preservers of moral orders in the world" (Goodyear). Pointing out that the seven Manus evidently constituted a septarchy, let us now study the Brahmanistic conception of a supreme divinity. From various authorities we learn that, in later times "the Brahmans invented a new god, the impersonal Brahma, who only appears in the youngest portion of the Vedas." He is described as "the supreme One who alone exists really and absolutely," and is represented with four heads and four arms, the idea of four-fold power and rule being thus expressed. The proof that, at the same time, the idea of duality existed, is furnished by the invention of a female counterpart of Brahma, namely, his consort Sarawati and the later development of the rival religions which now exist side by side and divide the population of India into halves. The cult of Vishnu, associated with the male principle, though curiously blended with the

principle of preservation, is obviously a parallel form of the American and Chinese cult of the Above or Heaven; while that of Siva, or the female principle, strongly mingled with the idea of destruction, forms a parallel to the cult of the Earth-mother and of darkness and the nocturnal heaven. Brahma was born of an egg and is also figured as springing from a lotus which, in turn rises from the navel of Vishnu or Narayana, "the Spirit moving on the waters."...[90]

In modern Buddhism the identical fundamental ideas continue to exist in a slightly different form; the six directions in space are known and elaborately worshipped. The embodiment of central power is Buddha, seated cross-legged on a lotus flower. According to Birdwood, cited by Mr. Goodyear, "In the Hindu cosmogony [pg 315] the world is likened to a lotus flower, floating in the centre of a shallow circular vessel, which has for its stalk an elephant and for its pedestal a tortoise. The seven petals of the lotus flower represent the seven divisions of the world as known to the ancient Hindus and the tabular torus (*Nelumbium speciosum*) which rises from their centre represents Mount Meru, the Hindu Olympus."

In the statues of Buddha, thus associated with the centre of the world, we have what may be termed the highest development of the idea of stability, quietude and absolute repose which impressed itself upon the human mind by the observation of Polaris. The abstract conception of Nirvana, "the state in which all individuality and consciousness are lost, and life and death, good and evil, and every other possible antithesis disappear in absolute unity," appears to me to be the natural ultimate outgrowth of the primitive appreciation of stability and repose as the most desirable of conditions.

An ancient American priest-astronomer, imbued with the native ideas, would doubtlessly see in the modern figures of Buddha a more perfect artistic rendition of the same

conception which was expressed in the Copan swastika. He might remark that, in the statues of Buddha, the human form is intended to convey the idea of quadruple organization and that in certain images the primitive symbols of the centre, "the belly and navel," are obviously emphasized. In the fakirs, who cultivate immobility, he might see people who are under the absolute dominion of the ideal of stability and detect the origin of this suggestion from the fact that the swastika position of either arms or legs is a favorite one among Hindoo fanatics, just as, out of devotion, many persons have swastikas painted or tattooed upon their limbs.

It is interesting to note the peculiar result attained by the Buddhists in their development of the twin idea of permanence, *i. e.* immutability or immortality, as shown in the following quotation: "There is a remarkable distinction between the Buddhism of China and of Tibet. In regard to philosophy there is little or no difference, but in Tibet there is a hierarchy which exercises political power. In China this could not be. The Grand Lama and many other lamas in Mongolia and Tibet assume the title of 'Living Buddha.' In him, most of all, Buddha is incarnate, as the people are taught to think. He never dies. When the body, in which Buddha is for the time incarnate, ceases to perform its functions, [pg 316] some infant is chosen by the priests, who are intrusted with the duty of selecting, to become the residence of Buddha until, in turn, it grows up to manhood and dies. No Buddhist priest in China pretends to be a 'living Buddha' or to have a right to the exercise of political power. In Tibet, on the other hand, the Grand Lama, as chief of the 'living Buddhas,' not only holds the place of the historical Buddha long since dead, acting as a sort of high-priest, but he also exercises sovereignty over the country of Tibet ruling the laity as well as the clergy and being only subordinate to the lord paramount, the Emperor of China" (Edkins, Religion in China, p. 8).

"The form of the Buddhist temples exemplifies in a

striking manner the relative positions of Buddha and the gods. Four kings of the gods are represented in the vestibule. Their office is to guard the door by which entrance is obtained to the presence of Buddha.... The central position is that of Buddha, who is seated on the lotus flower in the attitude of a teacher....” (Edkins). In this attitude an ancient American high-priest would see the graphic representation of one of the titles of the star-god Polaris, “the teacher of the world.”

The association of Buddha with the north and with the number seven is curiously shown in the mythical account that “when Buddha was born a lotus blossomed where he touched the ground; he stepped seven steps northward and a lotus marked each footfall.”

Distinct evidence of the ancient cult of Polaris is yielded by the Hindu marriage custom, which I have found described thus in Meyer's conversations Lexikon: “In the evening the bride and bridegroom seat themselves on the hide of a red ox, after making the usual offerings.... Then the bridegroom points out the pole-star to the bride and says: ‘the heaven is firm, also the earth; the universe is stedfast, so mayest thou be stedfast in our family’....” The symbolism of the act of sharing the ox-hide as a seat becomes apparent when it is realized that the name for cow or ox = go, also signifies possessions and riches, a conception which is traceable to a period when cattle constituted the chief and most valued possession of pastoral tribes. The veneration accorded in India to the cow is well known and travellers have frequently described the sacred statue of a cow, which is seven feet in height and stands next to the sacred well of the temple at Benares.

[pg 317]
In connection with the reference to the pole-star made by the Hindu bridegroom, it is noteworthy that the Sanscrit for star is stri, tara, for stara; Hindu sitara, tara and Bengal stara and that variants of the same word constitute

the name for star in Latin, Greek, Gothic, Old and Anglo Saxon, Welsh, Icelandic, Swedish, Danish and Basque, in which language it appears as izarra, recalling the Hindu sitara and, if I may venture to say so, the Nahuatl word for star, citlallin.

The supreme veneration and importance accorded in India to the North, from time immemorial, are shown by passages of the book of Manu, which prescribe the severe penances which were to be performed by the Brahmans who attained advanced age. He "is to inflict all sorts of tortures upon himself and when he falls ill in consequence, he is to set out to walk to the northwest, towards the holy mountain Meru, until his mortal frame breaks down and he unites himself with Brahma." It is likewise stated that when a Brahman king grew old and ill he was obliged to abdicate in favor of his son and voluntarily seek death in battle or by starvation, whilst wandering towards the holy mountain Meru, in the northwest. I point out the curious parallelism of this custom, which was carried out during countless centuries and determined a periodical migration towards the northwest of venerable sages, presumably accompanied by faithful followers, and the search for the stable centre of the world which caused the wanderings of American tribes under their chiefs.

According to various encyclopædias and general works of reference, Brahma is said to have made the world in two parts, *i. e.*, heaven and earth; placed air between both and made the eight regions, fire and the eternal waters. The mythical mountain Meru, on the summit of which the supreme power is said to be enthroned in eternal majesty, is the traditional paradise and is supposed to lie somewhere in the northwest of the Himalayas. It is situated in the centre of the seven zones in which the earth is divided, thence its name Meru = the Middle. The association of the central mountain with divinity and eternal stability is further shown by the statement that the sun, moon and stars circled about it and that it

supported the heaven.

As the natural complement to the above, I can cite the following evidences of an all-pervading quadruplicate division and organization, as set forth in an ancient manuscript which was brought [pg 318] from India by Count Angelo de Gubernatis and exhibited in Florence in 1898, by Mr. Pullé, in an extremely instructive series of native maps of India: 1. In the oldest maps, the empire of India was represented as a disk, divided into a number of concentric zones, in the centre of which arose the sacred mountain. 2. These representations were, in several cases, accompanied by representations of the swastika obviously representing quadruplicate territorial division.

On Mount Meru itself there were four lakes respectively filled with milk, butter, coagulated milk and sugar. Four great rivers flowed from the mountain towards the cardinal points, namely, the Ganges, issuing from the mouth of a cow, the Sita from the head of the elephant; the Bhadra from a tiger or lion and the Chaksu from a horse. According to Buddhistic mythology, the sacred mountain Meru, which constitutes the centre of the world, is guarded by four hero “kings of demons.” Their names are as follows: 1. Kubera or Vaisrānana, the god of wealth, who lives in the north, whose attributes are the lance and banner, the rat which throws forth jewels from its mouth. 2. Virūdhaka, who rules the south, and whose attributes are the helmet in the form of an elephant's head, and a long sword. 3. Virūpāksha, the guardian of the west: attributes, the jewel and the serpent. 4 Dhrtarāshtra, the ruler of the east: attribute, the mandoline.

An interesting parallelism is brought out by a comparison between the ancient Mexican mode of producing the sacred fire by means of a reed and a piece of wood and its symbolism of the mystic union of the two principles of nature, to the origin of fire as told in the Veda and the ceremonial mode employed in India to produce the sacred

fire by means of the mystic arani and the pramantha. The difference between the ancient American and Indian apparatus should be noticed. The two arani, made of the wood of *Ficus religiosa*, were placed crosswise. “At their junction was a fossette or cup-like hole and there they placed a piece of wood upright, in the form of a lance (the pramantha), violent rotation of which by means of whipping, produced fire, as did Prometheus, the bearer of fire in Greece” (Bournouf, Des Sciences et Religions and Prof. Thomas Wilson, The Swastika, p. 777). A remarkable relation unquestionably exists between the two mystic arani, which, crossed, form a four-branched cross from the centre of which fire is produced by rotation and the almost universal identification of [pg 319] Polaris and Ursa Major, as the central source of life, power extending to four directions, rotation and duality underlying quadruplicity. In my opinion no more graphic presentation of the rotation of Ursa Major around Polaris, the central ruler of heaven, could have been devised than the cross figure from the centre of which fire was perpetually obtained.

It is all the more significant, therefore, to find it stated that the ancient Aryan light-god, Mithra, was worshipped under the form of fire. I point out that, in a representation published by Layard in his Culte de Mithra and reproduced here (fig. 72, 1) from Mr. Goodyear's work, a man and a woman are represented as worshipping a star, the scene so strongly recalling the portion of the Hindu marriage ceremony where the pole-star is pointed out, that an identity of scene suggests itself. Returning to the swastika: its meaning in India appears to be forgotten; but, according to Professor Thomas Wilson, a follower of the Jain religion expressed the opinion that “the original idea was very high, but later on some persons thought the swastika represented only the combination of the male and female principles” (Thomas Wilson, On the Swastika, p. 803).

To the Hindu, holding this view and also accustomed to

associate the pole-star with the marriage rite, there must exist a curious band of union and identity between Polaris and the swastika, both connected with the combination of the male and female principles.

To treat of the Hindu calendar and division of time would be to transgress beyond the limits of the present investigation which has already assumed unforeseen dimensions. As I shall discuss it in detail in my monograph on the ancient Mexican Calendar system, it will suffice to recall here that Humboldt pointed out the resemblance between the latter and the Hindu system, and that this has been further dwelt upon for instance in the article on the subject in the Encyclopædia Britannica. In the same work of reference it is also stated that, "according to the conclusions of Delambre, the Hindoo knowledge of astronomy was greatly inferior to that of the Greeks, and it has been argued by Laplace, in opposition to the previous opinions of Bailly, that the Indian astronomy is not of the highest antiquity, but must have been imperfectly borrowed from the Greeks." I may as well state here, however, that, in India as in Mexico, the divisions of time were in accordance with the general scheme, and enabled human activity and labor to [pg 320] be controlled and carried out by means of rotation, and with strict impartial law, order and harmony.

Pausing here and with a clear realization of probable omissions and deficiencies of material, I venture to believe that the foregoing data suffice to establish beyond a doubt the point which is the main object of the present essay, namely, that in India the swastika is found accompanied by the primordial set of ideas which also form the basis of the Chinese and ancient American civilizations. The Middle is, moreover, associated in India with the idea of immovability, repose and centrifugal power and rule, incorporated in the supreme divinity whose symbol is the wheel and who is represented as dual and quadruple in nature, *i. e.* with four hands (as two persons), and with four heads (four persons), the six

persons thus symbolized being united in the person of the seventh, the synopsis of them all. The seven-day period; the seven zones of the earth; the seven divine footsteps towards the north; the seven councillors of the Brahmin king, etc., all prove that, whereas six directions in space were worshipped in India, they were inseparable from the sacred seventh which united all of them. The mythical sacred mountain Meru, the throne of the supreme eternal power, constituted the fixed centre of the world and strikingly exemplified quadruplicate division and organization, being associated with four lakes and four rivers; four mythical animals and four guardians. In consonance with this plan Brahma was endowed with four heads and four hands; the empire was divided into four quarters and seven zones, and the population into four castes identified with four colors, and governed by a king and seven councillors. The wheel, associated in the case of Mithra with the serpent, constituted the emblem of supreme dominion and rule which was connected with the idea of an extension to the four quarters. The swastika was but another expression of the same idea and represented also an image of the universal scheme. This sign and the pole-star were both associated, in the native mind, with the life-producing union of the male and female principles of nature and the sacred element fire, under which form the supreme god was anciently worshipped. The lotus flower symbolized the universe, its unity and complexity; the number of petals represented usually agreeing with the number of the cosmical divisions. Two points should further be briefly referred to: The division of time into seven-day periods [pg 321] coincides with the septenary scheme of organization resting upon the seven directions in space. The sacred soma tree, the hom, was an object of cult in India. The custom of planting a Bodhi tree wherever Buddhist missionaries established their doctrine indicates its association with the idea of an established centre. The employment of wooden sticks for the production of the sacred fire under which form the supreme central god was anciently worshipped, also connected wood and the

tree with the sacred Centre. Deferring a discussion of the different and yet analogous way in which the fundamental set of ideas was worked out in America and India, I shall but mention here how clearly, in each case, the ultimate results can be traced back to a common primitive and natural origin.

MESOPOTAMIA.

Let us now carry our research into that region whence civilization spread through western Asia, and is said to have been carried to Egypt, Greece and Rome. It may be a surprise to many to learn that, at the present day, on the banks of the Euphrates, in Mesopotamia, pole-star worship, pure and simple, is openly professed by the Mandaïtes who are reputed to be the descendants of the famous Magi of ancient Chaldea, and are termed Sabba or Sabans by the Moslems. It will be seen that these star-watchers have preserved intact an extremely ancient form of the archaic cult which contains the living germ of all primitive religions and represents an evolutionary stage which they must all have undergone.

It is to the kindness of a friend that I owe the knowledge of an article on a Mandaïte New Year festival which appeared in the "Standard" some years ago and which I reproduce in full as Appendix II. As might be expected, the Euphratean star-gazers, like the Chinese, determined midnight by the position of the Great Bear. It is interesting to find, moreover, that the spiritual head of the sect is entitled Gan-zivro, and is closely escorted by four young deacons, named sh-kan-dos, as well as by four priests = tarmidos, and four sub-deacons. The circumstance that the consecrated group of officiants consists of $12+1=13$ individuals is particularly suggestive. Not less so are the employment of the tau-shaped cross and the sacrifice of a quadruped to the lord of the underworld and his companion (the lord of the upper world?). The ceremonial immersion in the starlit river is a curious parallel [pg 322] to the midnight

bathing in the sacred pool attached to the ancient Mexican temple.

The formulas employed in addressing the pole-star deserve special consideration. In the designation of the stable centre of heaven as "the abode of the pious hereafter and the paradise of the elect," the natural longings of the human race for stability, *i. e.* safety and repose, find an expression and in this we can detect the germ of thought whose extreme development, in India, produced the comparatively philosophical doctrine of Nirvana. The title of "Primitive Sun" enlightens us as to the original use of the word sun and the supreme importance accorded by the ancient star-gazers to the "Imperial ruler of heaven," as the Chinese term the pole-star. This application of the word sun will be found particularly interesting to those who, having found the swastika termed a "sun-symbol," have naturally been led to associate it with the diurnal sun, although they found it difficult to understand its connection with the rotatory motion so clearly discernible in the form of the primitive symbol.

Having ascertained that the Mandaïte pole-star worship of the present day embodies the cult of the sacred centre and of dual principles (one of which is designated as the lord of the underworld) and is associated with quadruple organization and a form of cross, let us now make a great stride backwards and note some details concerning ancient Sabæan star-worship.

ARABIA.

In remote antiquity, star-worship prevailed throughout Arabia and one of its great centres was the flourishing land of Saba or Sheba, whose queen visited Solomon at Jerusalem. The star-cult of the Sabæans is acknowledged to have resembled that of the ancient inhabitants of Syria, Mesopotamia, Persia and India. We are told that a certain sect amongst them "believed in a great cycle of time in which certain epochs of the world's history recurred"—an

idea akin to ancient Mexican speculative philosophy. It is also stated that one of the chief centres of Sabæism was the town of Harran in Mesopotamia and that, although surrounded by Christianity, this ancient form of star-worship maintained itself here until the Middle Ages. The possibility that the Mandaïtes of to-day may be the descendants of the ancient inhabitants of Harran is naturally suggested by this historical fact. [pg 323] A curious detail concerning monarchical succession in Sheba has been preserved to us. The king was kept in an enforced seclusion in his palace and incurred the penalty of death if he left it. His office was not hereditary but fell to the first son who was born amongst the nobility, after a king's accession to the throne. In this custom, a curious parallel of which is furnished by the Thibetan mode of electing the "living Buddha," some readers may be inclined to find an explanation for the massacre of the babes ordered by Herod when he learned that the wise men of the East, guided by a star, had designated "a young child" as the future "King of the Jews." It is an interesting reflection that, to many of his contemporaries, the establishment of the "Kingdom of Heaven," announced by the Messiah, may have appeared as a movement to revive the most ancient form of government and to reinstate Jerusalem as the central metropolis of an empire, the organization of which would have resembled the Chinese and ancient American forms of "Middle Kingdoms," or "Celestial Empires."

The ideal of many of these descendants of ancient pole-star worshippers may well have been the reversion to the primitive, pure type of single central, celestial and terrestrial rule which had been superseded in western Asia by the pernicious growth of the utterly abasing and demoralizing separate cults of the dual principles of nature.

A curious remnant of the worship of the Earth-mother and of the stable centre of the world, recalling ancient American symbolism, exists in Arabia and merits a

passing notice. “The great holy place of Jiddah, the principal landing place of the pilgrims to Mecca, on the eastern coast of the Red sea, is the singular tomb of ‘our mother Eve’ surrounded by the principal cemetery. The tomb is a walled enclosure said to represent the dimensions of the body about 200 paces long and 15 feet wide. At the head is a small erection where gifts are deposited and rather more than half way down a whitewashed dome encloses a small, dark chapel, within which is the black stone known as el-surrah = the navel. The grave of Eve is mentioned by Edrisi but, except the black stone, nothing bears any aspect of antiquity” (Encycl. Brit., article Jiddah).

The fact that the Arabian appellation for Mecca is om-el-kora = “the mother of cities” deserves special attention. Exactly in the centre of the city is the mosque enclosing the kaaba, a structure [pg 324] the only door of which opens to the north. It contains the celebrated black sacred stone and a trough, reputed to be of pure gold, which conducts freshly fallen rain water to the interior of the building and pours it upon its floor of dark earth. The following details are given in a recently published account by an anonymous visitor:

“The Moslems believe that the original Kaaba was built in heaven two thousand years before the creation of the world and that, at the command of the Almighty, angels walked around it in adoration. Furthermore, they said that Adam built the first Kaaba on earth on its present site, directly under the one in heaven.... Long before the time of Mahomet, the Kaaba was a place of worship for the idolatrous Arabs and in it they had no less than 360 idols, one for each day of the Arabian year. These were destroyed by Mahomet....” Beside the pilgrimages to the Kaaba pious Mussulmans also visit the sacred granite mountains the “Arafat where Adam is supposed to have met Eve after a long separation.”

Summarized, the preceding facts clearly show that, from a

remote antiquity, the Arabians have preserved the conception of (1) a divine, celestial, stable sanctuary around which “angels” walked in a circle. (2) A terrestrial sanctuary built by man directly beneath the heavenly one and associated with the period of a year, *i. e.* 360 days. (3) In the sacred terrestrial kaaba the mystic union of rain and earth is made to take place, while (4) Mount Arafat is connected with the traditional reunion of Adam and Eve.

It is unnecessary to point out the significant association of an annual count of days with the stable centre and its importance as an indication that the ancient Arabian star-gazers originally associated the year period with circumpolar rotation. The analogy between the Arabian ideas concerning the dual principles of nature and those of other nations is also too marked to be easily overlooked.

Nor need I emphasize how strikingly the imagery of the celestial kaaba suits Polaris and the circumpolar constellations. But I shall now proceed to point out that the word kaaba itself curiously resembles star-names which are given by Mr. Robert Brown in his recent valuable publication to which I shall revert, namely, the Akkadian name for constellation in general = kakkab and the Babylonian and Assyrian name for the pole-star = Kakkabu. In this connection and upon Professor Sayce's authority I cite the significant [pg 325] fact that the word for north and for the empire and capital of northern Babylonia was Akkad, and that we thus find in North Babylonia a great centre of government the name of which contains the syllables ak-ka which recur in the appellations for north and for Polaris.

The following star-names, given by Mr. Robert Brown, are of utmost interest considering that a star in Draconis was the pole-star of 2170 B.C. and that in general the serpent was indissolubly connected with the pole-star. “The constellation Drakon is Phœnician = Kanaanite in origin and represented primarily the nâkkâsch qodmun (old

serpent) = the guardian of the stars (golden apples) which hang from the pole tree. It is called the crooked serpent = nakkasch in Job XXVI:13 ...” (*op. cit.*, p. 29). I further cite Mr. Brown's authority for the fact that in Phœnicia A.D., 1200, the name for Ursa Major was Dubkabir and for Ursa Minor, Dub.

Before returning to the Euphratean valley let us note some facts concerning the ancient religion of

PERSIA.

The swastika is found in Persia as well as a sacred mountain, the Elburl. The supreme divinity was the invisible Ahuramazda, the “creator of heaven and earth,” who was associated with “eternal light” and appears to be identical with the ancient Aryan god of light, Mithra, the watcher and ruler of the world, who was worshipped under the form of fire.

Mithra and Ahuramazda alike are associated with six spirits named the Amesha-zpenta, who are said, in the first case, to be personifications of the sun, moon, fire, earth, water and air, and in the second, of certain qualities of the supreme power, namely, law, power, goodness, piety, health and immortality, abstract conceptions which evidently pertain to a more advanced intellectual stage. The septarchy thus formed by Mithra and his Amesha appears to assign the Middle to him and to associate the sun with the day, heaven, light and the Above, the moon with the night and darkness and the Below, and the elements with the Four Quarters. It is suggestive of four-fold rule and power to find, on a bas-relief found at the ancient holy city Pasargada, the Persian king Cyrus represented with four wings and a diadem with two uræus serpents like that of Egyptian kings.

[pg 326]
The most ancient Persian monarch is said to have been Haha-manis or Akhamanis, who was termed “the king of

Anshan." Subsequent kings bore the title of Hakhamanisija, as for instance, Cyrus and Darius I (520-486 B.C.). At the present day, the title Charkan is that employed to designate the Shah, whereas goda or khoda signifies lord, master, prince or ruler.

In a bas-relief published by Spamer, whose work of reference will be referred to again later on, Darius is represented as standing under the image of Ahuramazda, the supreme deity, who, like the Assyrian god Assur, is figured as a king wearing the royal cap, and issuing from the centre of a winged ring or circlet. In Persia the god holds another ring in his hand (fig. 71, 1). It seems impossible to emphasize more strongly or express more clearly the idea that Ahuramazda was the lord of the circle and of the Above, the wings being emblematic of air or heaven and of motion.

The signification of the symbolical representation of the supreme power and the adoption of fire by the founders of the ancient Parsee religion as the most appropriate image of their highest god, become clear when interpreted as the outcome of pole-star worship. Resisting the temptation to prolong the study of ancient Persia, let us now hasten to the reputed cradle of the civilization of Western Asia.

BABYLONIA AND ASSYRIA.

"The Babylonians were from the first a nation of star gazers.... The cuneiform character which denotes a god is the picture of a star" (Sayce *op. cit.*). "The Babylonian and Assyrian-name for Ursa Minor was Kakkabu; the Hebrew, Kokhâbh; and the Euphratean, Kochab, which means, '*the* star *present*,' a title which reminds us of its former supreme importance as the pole-star.... In various Babylonian tablets we meet a star-god called Imina-bi = the seven-fold one."[91] Although Mr. Brown has reached no definite conclusion as to the identity of this star-god, I venture to maintain that the original "seven-fold one" could have been no other than Ursa Major and

that this and “the ever-present star” are identical with what the Chinese termed “the Imperial Ruler of Heaven” and the “Seven Regulators.” The following passages furnish ample evidence of the suggestive [pg 327] influence that “the seven-fold one” exerted upon the minds of the ancient Babylonian star-gazers.

“The institution of the sabbath went back to the Sumerian days of Chaldea—the name itself is Babylonian” (Sayce, *op. cit.*). “The seventh month (=Sept.-Oct.) in Akkadian is named Tul-ku=the holy altar.... The seventh month of Tasritutisri was also connected with the building of the tower of Babel, said to have been the special work of the ‘King of the Holy Mound,’ Sar-tuli-elli, and its erection placed in the seventh month at the autumnal equinox. It was a zikkurâtú with seven steps, a circumstance connected with planetary [? stellar] symbolism. This style of building is reduplicated in the oldest Egyptian pyramids, *e. g.* the pyramid of Sakkârah, which had seven steps like the Babylonian towers. This circumstance, one amongst many such, supplies a most interesting illustration of the fact that the Egyptian civilization was mainly Euphratean in origin” (Robert Brown, *op. cit.*).

The following facts contained in Prof. Morris Jastrow's admirable hand book on the “Religion of Babylonia and Assyria,” further establish the pervading influence of the number seven. “The two most famous zikkurats of seven stages were those in Babylon and Borsippa, opposite Babylon. The latter bears the significant name E-ur-imin-an-ki, *i. e.*, ‘the house of seven divisions of heaven and earth.’ Two much older towers than those of Babylon and Borsippa bear names in which ‘seven’ is introduced. One of these is the zikkurat to Nin-girsu at Lagash, which Gudea describes as ‘the house of seven divisions of the world,’ the other the tower at Uruk, which bore the name ‘house of seven zones.’ The reference in both cases is, as Jensen has shown, to the seven concentric zones into which the earth was divided by the Babylonians.”

In a standard German book of reference (Spamer's Illustrierte Weltgeschichte I Theil, Alterthum, I Theil, s. 371), I find the statement that the zikkurat of the temple I-zidda at Borsippa, was called “the temple of the seven lights of heaven and earth,” which seem to have been symbolized also by the seven-branched candlestick of the Hebrews. Considering that other sacred symbols which were employed in Solomon's temple are believed by Professor Jastrow to be “imitations of Babylonian models,” it seems justifiable to endeavor to trace to the same source the origin of the Hebrew “seven-branched candlestick,” to which I shall revert later [pg 328] on. Prof. Morris Jastrow offers the suggestion that the name “seven directions of heaven and earth” may point to a conception of seven zones dividing the heavens as well as the earth, and states that the “seven divisions” and “seven zones” are merely terms equivalent to universe. He explains that the seven directions were interpreted by the Babylonian theologians as a reference to the seven great celestial bodies, the sun and moon, Ishtar, Marduk, Ninib, Nergal and Nabu. To each of these one story was supposed to be dedicated and the tower thus became a cosmological symbol. Moreover, from Herodotus' description of the seven concentric walls of Ecbatana, in which each wall was distinguished by a certain color, the conclusion has been drawn that the same colors—white, black, scarlet, blue, orange, silver and gold—were employed by the Babylonians for the stages of their towers.

Professor Jastrow draws attention to the fact that the division of the earth into seven zones is a “conception that we encounter in India and Persia, and that survives in the seven ‘climates’ into which the world was divided by Greek and Arabic geographers. It seems clear that this interpretation of the number seven is older than the one that identified each story with one of the planets. Both interpretations have a scholastic aspect, however, and the very fact that there are two interpretations justifies the suspicion that neither furnishes the *real* explanation why

the number seven was chosen ... it is because seven was popularly sacred that the world was divided into seven zones and that the planets were fixed at seven, not *vice versa*" (p. 620).

The preceding statements lead to the conclusion that, among Assyriologists there is no current, generally-accepted view as to the origin of the "sacred seven" of the Babylonians. The following details concerning the zikkurat and the sanctuaries of Babylon will be found to furnish evidence that their builders were imbued with the identical primitive set of ideas or seven-fold division of the cosmos that is now so familiar to the reader and is traceable to the observation of Polaris and Septentriones.

The astronomical association and cosmological symbolism of the zikkurat become more and more evident when all evidence concerning it is carefully sifted. According to the cosmogony of the Babylonians the earth was pictured as a huge mountain. Khar-sag-gal-kurkura = the mountain of all lands, is a designation for the earth. E-kur = mountain house, another name for the earth, [pg 329] became one of the names for temple and, by extension, for the sacred precinct which enclosed the zikkurat and sacred edifices.[92]

A plural formed of the word E-kur, = Ekurrati, was used for divinities, and this association of the word mountain with the name for a god is particularly interesting when it is also remembered that the cuneiform character for god is a star and that therefore either a mountain, or a star, signified a god in Babylonian and Assyrian inscriptions. Bel, the supreme star god of the Babylonians, whose name literally signifies merely "lord or king," and under the form Ah-baal became current throughout Asia Minor, was, as Professor Jastrow states (*op. cit.* p. 435), actually identified with the polar star, and sometimes addressed as the "great mountain."[93]

The famous temple, the E-kur of Babylonian history, is described by Herodotus, Strabo and other pagan

authorities, as consisting of seven stories and being surmounted by a sanctuary which was under the charge of a virgin priestess and contained a couch (resting-place) for the god.[94] It is amply demonstrated, moreover, that the central zikkurat was regarded as the permanent resting and dwelling place of *the* lord or god, par excellence, and in this connection it is significant that among the names of sanctuaries [pg 330] enumerated by Professor Jastrow there occur such as "the true or fixed house," the house of the established seat, the sacred dwelling, the permanent dwelling, etc.

The Babylonian ideas connected with the supreme god and his temple are, moreover, sufficiently apparent in the prayers to Marduk, from which I extract the following detached passages: "Marduk, king of heaven and earth.... Look favorably upon the city, *O lord of rest*!... May the gods of heaven and earth speak to thee *O lord of rest*!... A resting-place for the lord of E-sagila is thy house, E-sagila, the house of thy sovereignty, is thy house...."

The sanctuary surmounting the zikkurat, is also termed "the high place par excellence, or the lofty house, the high edifice, the tower of the great dwelling, the great palace, the house of the glorious mountain [or god] the house of him who gives the sceptre of the world; also the house of light, the house of great splendor, the house without rival, the gate of widespread splendor, the light of Shamash, the heart of Shamash, the life of the world."

The idea that the "mountain house" or "high place" was the consecrated centre where the union of heaven and earth took place, is apparent from the following names: "the house of heavenly construction, the heavenly house, the house reaching to heaven, the point of heaven and earth, the link of heaven and earth, the foundation stone of heaven and earth."

"Complementing," as Professor Jastrow says, "the cosmological associations that have been noted in connection with the zikkurat," we find the inner room or

sanctuary of the Babylonian and Assyrian temple named Papakhu, from the verb pakhu = to close. It was also known as the parakhu, from parâku = to shut off, to lock. "Gudea describes the papakhu as 'the dark chamber.' Professor Jastrow states that it was regarded as an imitation of a cosmical 'sacred chamber,' and from his book we learn that it was employed as an assembly room, or council chamber by the priesthood. It was indeed termed 'the assembly room' the 'place of [pg 331] fates,' 'the court of the world,' 'the house of oracle,' also as the 'sacred room where the gods assembled in solemn council' and 'the chamber of fates' where the chief god sits on New Year's day and decides the fate of mankind for the ensuing year" (Jastrow, *op. cit.* p. 423).

The Babylonian and Assyrian kings were the living representatives of the chief god and Professor Jastrow states that "it was into the papakhu that the priests retired when they desired to obtain an oracle direct from the god.... It is particularly interesting to collate the statements 'that the New Year's day was the occasion of a symbolical marriage between a god and goddess,' and that 'the New Year's festival came to be the season most appropriate for approaching the oracular chamber.' " It thus appears that the papakhu was the sacred and secret chamber where the ancient kings and their councillors united to confer upon the government of the nation and decreed the irrevocable laws which decided the fate of individuals.

"The 'decision of fates' is, in Babylonian theology, one of the chief functions of the gods. It constitutes the mainspring of their power. To decide fates is to control the arrangement of the universe—to establish order." The "tablets of fate" are repeatedly mentioned in the Assyrian epics where it is described how one god addressing another, "gives him the tablets of fate, hangs them on his breast and dismisses him," with the words: "thy command be invincible, thy order authoritative" (Jastrow, pp. 420 and 424). It is evident that these words were supposed to

convey the power to establish order and issue irrevocable laws.

The temple of Shamash (who, like Marduk, was evidently identical with Bel), situated in Babylon, was termed “the house of the universal judge,” and it is extremely interesting to find this “god”[95] represented on a stone tablet found at Sippar, as seated on a low throne in the sanctuary or papakkhu, of the temple El-bab-bara, while in front of him on an altar rests what Professor Jastrow describes as “a wheel with radiant spokes.”

A fine illustration of this tablet which bears an inscription by the [pg 332] king Nabupaliddin (879-855 B.C.) being published in Spamer's standard work already cited, I have been able to note the interesting fact that the “wheel with radiant spokes” exhibits four pointed rays, directed outwards and forming a cruciform figure, which, by the way, it is interesting to compare with the Mexican Calendar stone and its four rays. Each of the spaces between these pointed rays is filled by a group of wavy lines which appears to simulate some fluid flowing from the centre, which is formed by a series of concentric circles. The quadruplicate peculiar partition of the disk assumes special importance when it is realized that, in the niche above the head of Shamash, a miniature production of the *disk recurs between the familiar conventional images of the moon and a disk containing eight rays or spokes*. According to Dr. Felix von Luschan (Mitth. aus der vorderasiat. Abth. der Kgl. Museen, Heft XI, p. 24), the inscription opens with the invocation to “ilu Sin, ilu Shamash u ilu Ishtar,” a fact of double interest, because Ishtar is termed the “twin-sister of Shamash” in an Assyrian hymn, and because the inscription obviously identifies the moon as the symbol of Sin, the four-spoked wheel as that of Shamash and the eight-spoked wheel as that of Ishtar. As the king, in his inscriptions expressly states that he has restored on the tablet the image of Shamash according to an ancient model, for the guidance of future artists, it is evident that departures from the

original cult of Shamash had taken place in his time and that he was making an attempt to reëstablish it. The extreme antiquity of the cult of Shamash may, indeed, be inferred from the fact that about B.C. 1850, the king, Shamsi-ramann, bore the god's name as a divine title. About B.C. 1350, moreover, a temple was built to Shamash in Ashur.

I shall treat, further on, of the evidences showing that the cult of Polaris gradually became a secret one known to the initiated only, while popular worship was directed to the sun, moon, and morning and evening stars, etc. Meanwhile the following passages from Professor Jastrow's hand-book will elucidate the Babylonian Assyrian cult of the Four Quarters.

“The zikkurat was quadrangular in shape. The orientation of the four corners towards the four cardinal points was approximate. Inasmuch as the rulers of Babylon from a very early period call themselves ‘king of the four regions,’ it has been supposed that [pg 333] the quadrangular shape was chosen designedly.”... “The title ‘king of the four regions’ was an old one that pertained to the kings of Agade.... The city of Arbela, at one time the seat of the cult of Ishtar, was named ‘the four-god city.’ ” This name is particularly interesting when it is remembered that the Babylonian and Assyrian word for god and mountain was identical and that this identity may account for the Chinese employment of the term “four mountains,” to express also the four provinces and their chiefs. Professor Jastrow informs us, in a note, that the name Arbela is, more precisely, Arba-ilu, signifying “city of the four-fold divinity” or “four-god” city and invites comparison to the Palestinian form Kiryath-arba, “four-city.” He suggests that this name may perhaps likewise signify a city of four gods, but adds that it has commonly been explained as meaning four roads or four quarters (*op. cit.* 203).

The ancient pagan authorities inform us that the ancient

city of Babylon was laid out in the form of a perfect square, the sides of which were oriented to the cardinal points. A massive wall enclosed the entire city and the river Euphrates divided it into halves, united by a bridge, each half being again subdivided by the main street leading to the bridge. A series of streets ran parallel to the river through the city and were crossed at right angles by others, the result being that 625 blocks or squares of building were thus formed.

There is positive evidence that the capital city of Lagash or Shir-pur-la was divided into four sections, the separate names of which were Girsu, Uru-alaga, Ninâ and Gish-Galla or Erim, the reading of the latter name being doubtful. The circumstance that each of these quarters had its "divinity" and was ruled by its earthly representative, explains the term "four-god city" or "four city" found associated with other capitals of Babylonia.

The existence of a central ruler who exercised supreme authority over the four quarters of the capital, and by extension over the "four provinces" is amply proven by the title of the Babylonian kings, *i. e.*, the "king of the four regions." An interesting oracle, addressed to king Esar-Haddon is found to contain the statement that "Ashur has given him the four ends of the earth" (Jastrow, *op. cit.* 345).

Evidence that while the capital and entire state consisted of four quarters, the whole was also divided theoretically and practically [pg 334] into halves, is furnished by the significant fact that, from remote antiquity, the rulers of Babylonia also bore the title of "lord of Akkad and Sumer"=North and South, this term being, like that of "Four Regions," a general designation for the whole of Babylonia and the first being obviously analogous to the Egyptian royal title: "King of upper and lower Egypt."

I can but briefly indicate here some facts which prove that this ancient Babylonian centre of civilization underwent precisely the same evolution as that I have traced in America and India.

Assyriologists agree in stating that, at the beginning of Babylonian history, about 4,000 B.C., Akkad and Sumer, or North and South Babylonia, already existed and were inhabited by two distinct races of people: the non-Semitic Sumerians and the Semitic Akkadians or later Babylonians. In later times we find the region embraced by the Euphrates and Tigris inhabited by descendants of both races and forming the Babylonian empire in the south, the Assyrian empire to the northeast, while in the northwestern part of Mesopotamia, was the seat of various empires that were alternately the rivals and subjects of either Babylonia or Assyria (Jastrow, *op. cit.* 26).

Three distinct and rival cults are indeed found associated with these three centres of government, and when examined by the light of our knowledge of a parallel process of evolution elsewhere, their origin can be traced back to elementary pole-star heaven and earth worship, and what is termed the establishment of the districts of Anu, Bel and Ea. That at one period these separate cults peacefully existed alongside of each other is indicated by the joint worship of pairs and triads of divinities who were personifications of central powers, of the upper and of the lower regions. In order to demonstrate this statement I shall briefly cite some references to such divinities from Professor Jastrow's hand-book, taking them in the order in which they are enumerated in the famous Babylonian version of the creation of the world, contained in the fragment known as the “Creation epic”

which begins thus:

"There was a time where Above, the heaven, was not named. Below, the earth, bore no name. Apsu was there from the first, the source of both (*i. e.*, heaven and earth). And raging Tiamat, the mother of both (*i. e.*, heaven and earth)." Apsu and Tiamat are synonymous and are personifications of the watery deep or abyss. "Apsu represents the male and Tiamat the female principle of the [pg 335] primæval universe ... the embrace of Apsu and Tiamat became a symbol of 'sexual' union."

Tiamat was popularly pictured as a huge serpent-like monster, a fact of utmost interest when connected with the name Nakkash, *i. e.*, crooked serpent, bestowed upon the constellation Draconis which contained the pole-star of 2170 B.C. Abstaining from comment I merely establish here the interesting point that in ancient Babylonia the serpent is found distinctly associated with Polaris as well as with the dual creative principle. The divine pairs Lakhmu and Lakhamu and Anshar and Kishar were then created. By an arbitrary division of his name into An and shar, the deity becomes the "one that embraces all that is above." The element An is the same that we have in Anu and is the ideographic form for "high" and "heaven." Ki is the ideographic form for earth and the natural consort to an all-embracing upper power is a power that "embraces all that is below."

It is interesting thus to ascertain that on another tablet by the side of these personifications of heaven and earth are enumerated a series of names which certainly appear to be merely variations on the names or titles of the divine pairs. Lakhumu and Lakhamu occur on the list, and Anshar and Kishar recur as Anshar-gal, "great totality of what is on high," and Kishar-gal, "great totality of what is below." Then there are En-shar and Nin-shar, "lord and mistress" and a "Father-Mother of Anu," titles which furnish an interesting comparison with the list printed on page 42 of this investigation.

Pagan authorities, cited by Professor Jastrow, relate that the first result of the union of Apsu and Tiamat was the production of “strange monsters, human beings with wings, beings with two heads, male and female, hybrid formations, half man, half animal, with horns of rams and horses' hoofs, bulls with human faces, dogs with four-fold bodies ending in fish tails.” Seen in the light of the present investigation these accounts and the sculptured images of such monstrosities, many of which have been preserved to the present day, may be accounted for in a very simple and natural manner. It is obvious that, once the Babylonian theologians had definitely adopted the theory and creed that the universe had been created by the union of the Above and Below, Male and Female principle, Heaven and Earth, or Upper and Lower Firmament, the production of allegorical images personifying or symbolizing this [pg 336] union would inevitably follow in course of time. The somewhat naïve but expressive combination of the form of a quadruped or serpent with that of a bird, and the adoption of winged bulls, lions and serpents, would have seemed a most appropriate rendering of the current idea of the dual, creative power, which might also be conveyed by two heads, or two horns. From Professor Jastrow's description of the case of a single monster, with four bodies and with attributes of the elements earth and water, we learn that not only the union of heaven and earth but also of earth and water was at times the task imposed upon the native artists by the fancy and imagination of minds dwelling upon the subject of the creative first cause. Postponing further discussion of the Babylonian and Assyrian symbolism of the Middle, Above and Below and Four Quarters or the “seven directions of Heaven and Earth,” I shall now direct attention to the most famous triad of Babylonian cosmology which figures at the end of the Creation epic. It consisted of Anu, Ea and Bel[96] and obviously personified the Above and Below and the link or central meeting place of these, the earth named Esharra, “the house of fertility” or E-kur “the mountain house.” We learn from Professor Jastrow's handbook that

whereas Bel = the polar star (the secret god) and Nibir = the planet Jupiter (the later popular personification of Bel) were associated with the North, Ea was identified with the South (p. 435). Elsewhere we are told that Anu was identified with the North, Bel with the equator and Ea with the South (p. 460), a fact to which I shall again recur in treating of the territorial divisions of the state, which corresponded to the three divisions of the universe, the Above, Middle and Below.

The following detached statements concerning Babylonian divinities drawn from Professor Jastrow's handbook, show with what activity the fundamental set of ideas was developed by the native theologians and philosophers. Bel-arduk became the chief god of Babylon, the title "Belu-rabu" *i. e.*, "great lord," becoming identified with Marduk. As such he is termed "the king of heaven and earth" and the "lord of the four regions." His dwelling was on the sacred "mountain-house," the zikkurat, and is represented "with a crown with high horns, a symbol of dual rulership. [pg 337] As the supreme ruler, life and death are in his hands and he guides the decrees of the deities of the Above and Below." "The first part of the name Marduk is also used to designate the 'young bullock,' and it is possible that the god was pictured in this way." It should be remembered here, however, that on page 89 Professor Jastrow tells us how Nannar = the one who furnishes light = the moon, was invoked as "the powerful bull of Anu," *i. e.*, heaven. In this connection it is interesting to learn that in Canaan, Astarte, the goddess of night, was also worshipped under the form of a cow, and that in Phœnicia she was sometimes figured with horns, symbolizing the moon. In Assyria, four horns, denoting four-fold rulership, usually encircle the high conical cap of sovereignty, which also crowns the human heads of the winged bulls. It may be permissible to point out here what an appropriate and expressive embodiment of symbolism the winged bull appears to be; the form of the quadruped, combined with wings, clearly symbolizes a union of the Above and

Below; the control over both being expressed by the human head which completes the allegorical figure. The high cap, with which the head was crowned, exhibits the form of a mound, and combined or partly encircled by two or sometimes four horns, obviously symbolizes dual or quadruple rulership. It thus appears evident that the winged bull of Assyria expressed, almost as clearly as the seven-staged towers of Babylon, the "seven directions of heaven and earth," and was as appropriate an allegorical image of Assur the god, as of Assur the state, and of the royal power which conferred upon the supreme lords of Babylonia and Assyria the titles: "lord of the holy mound," "lord of Akkad and Sumer," and "lord of the four regions."

The idea that some of the Assyrian kings actually embodied seven-fold power, or ruled the "seven divisions," is further conveyed by curious groups of seven symbols, accompanied by the numeral seven, expressed by seven dots, which occur above their portraits on tablets which will be described further on. Whilst analyzing the royal titles and insignia represented on the stelæ of Assyrian kings, I shall likewise show how these complete the foregoing evidence and indicate that in Babylonia and Assyria, the seven-fold division was applied not only to the Cosmos, but to the territory of the State, to its social organization, to its calendar; and that the seven-storied zikkurat, the winged bulls, etc., and indeed, [pg 338] the seven-branched candlestick, were apparently designed as expressive of the general seven-fold scheme of organization.

Let us now examine some data which shed light upon the various and curious phases of evolution undergone by the growing and diverging cults of Heaven and Earth in Babylonia and Assyria. Going back to the dawn of astronomy in Babylonia let us note some facts which show that, as elsewhere, in remotest antiquity the periodical disappearance and reappearance of the Pleiades produced a deep impression upon the primitive

star-gazers. These phenomena marked natural divisions of the year and the constellation appeared to belong alternately to the visible or upper world and to the invisible or lower region. A recognition that the Pleaid was *the* constellation at that remote period when Taurus led the year, may be established by the common Euphratean name by which it is said to have been designated: Kakkab-mul = *the* constellation or star. The Akkadian and Assyrian names which had probably also originally designated Polaris signified that it and the Hyades were the foundation stars or constellations. In the Ptolemy star charts, the Pleiades are designated by the name Ki mah (see Robert Brown, *op. cit.* p. 57). While it appears that whereas the Pleiades long exerted its influence and, with Polaris and the circumpolar constellations, regulated and marked the primitive year, its cult was gradually superseded by that of morning and evening stars and of the sun and moon which became the emblems of the rapidly developing divergent cults of the diurnal and nocturnal heavens, of light and darkness, of the Above and Below.[97]

[pg 339]
In connection with the cult of the Pleiades I draw attention to R. G. Haliburton's interesting investigations on this particular subject, and to his publication in the Proceedings of the A. A. A. S. 1895, on “Dwarf survivals and traditions as to pigmy races,” which contains the following statements: “We find that the Atlas dwarfs and the Nanos predict the future by watching the reflection of the ‘Seven Stars’ in a bowl. The famous cup of Nestor, supposed to have been a divining cup, had two groups of Pleiades on its handle....” On examining the archaic designs engraved in the centre of the fine collection of Phœnician and Assyrian bronze bowls, which were found in the S. E. Palace, Nimroud, and are exhibited at the British Museum, I recently ascertained that they appear to be mostly variations on the theme of the centre and four or seven-fold division, some exhibiting a marked quadruplicate division, others a seven-pointed star

surrounded by seven smaller stars. In one case a face is repeated four times, in opposite positions, on the central design which is surrounded by four large and four lesser conventionally drawn mountains. The head-dress with lappets which encloses each face recalls the familiar Egyptian form, and on two bowls images of scarabs are engraved. On one of these the beetle is drawn in such a way that its four legs, two of which turn upwards and two downwards, suggest the form of a swastika.

The peculiarities of these designs and the knowledge that star-worship prevailed in Assyria and Phœnicia suggest the inference that the Nimroud Palace bowls were employed for the observation of the positions of certain stars which marked the seasons and regulated the calendar, by means of which the priest-kings controlled the working of the system of state. Doubtlessly the constellations originally and principally observed besides Polaris were the three great "seven-fold ones," *i. e.* the Ursa Major which marked the Four Quarters; the Pleiades which pertained to the Above and Below and marked the division of the year into halves, and Orion which also may well have appeared to be a composite image of the sacred, equal Four, and the central triad composed of the Above, Middle and Below.

It is interesting to note that in the Euphratean and other myths the antagonism between sun and moon, etc., coincides with traditions of actual warfare between their earthly representatives and that it is the record of a combat between the followers of light and of [pg 340] darkness that seems to have been thus preserved. The Babylonian Creation epic teaches us that, in remotest antiquity, the association of light and life with the male, and darkness and death with the female principle had become current. A mighty war takes place between the female serpent Tiamat, associated with evil, and the male god Marduk, the champion of the gods of the upper realm, which ends in her overthrow. It was then that Marduk "established the districts or cities of Anu, Bel and

Ea," identified with the North, Middle and South. It is remarkable that this mythical establishment of three cities exactly coincides with the conclusions reached by recent investigators as to the existence during centuries, of three rival states, *i. e.* Babylonia in the south and Assyria in the northeast, who, during centuries, were in continual warfare with each other and with a third disintegrated power inhabiting the northwest which was alternately rival or vassal. This condition of affairs, and the facts enumerated in Professor Jastrow's handbook, chapter II, are precisely what would naturally develop from the formation and adoption of three distinct cults and their ultimate separate establishment in as many centres of government. The following data will suffice to reveal some of the curious results obtained by the logical working out of certain associations of ideas and these results are the more interesting and intelligible because they are analogous to those I have traced elsewhere.

One point deserves special note: directly opposite views, not only as to the relative supremacy of the Middle, Above and Below, but also as to the relation of the sexes to the upper and lower worlds, seem to have been held at different times and in different places; and this particular division of opinion appears to have given rise to endless dissension, strife and warfare, to the separation of sectarians from the main state and the foundation of numberless minor centres of government on the old plan, but with fresh forms of cult embodying a new artificial combination of ideas.

The shifting of supremacy from one "god" to another explains moreover the transference of the title "Bel" = Lord, or Chief of Gods, from the personification of one region to another. "In remotest antiquity we find En-lil designated as the 'lord of the lower world' and bearing the title Bel. En-lil represents the unification of the various forces whose seat or sphere of action is among the inhabited parts of the globe, both on the surface and [pg 341] beneath, for the term 'lower world' is here used in

contrast to the upper or heavenly world.... As 'lord of the lower world,' En-lil is contrasted to a god, Anu, who presides over heavenly bodies. The age of Sargon (3800 B.C.), in whose inscriptions En-lil already occurs, is one of considerable culture and there can, therefore, be no objection against the assumption that at this early period a theological system should have been evolved which gave rise to beliefs in great powers whose dominion embraces the 'upper' and 'lower' worlds" (Jastrow, *op. cit.* pp. 52-55).

A consort, Nin-lil, a "mistress of the lower world," was assigned to En-lil and was known also as Belit, the feminine form of Bel, *i. e.* the lady *par excellence*. She too had her temple at Nippur, the age of which goes back, at least, to the first dynasty of Ur. She was also known as Nin-khar-sag, the "lady of the high or great mountain," as the "mother of the gods." The assignment by Sargon, of the northern gates of his palace to Bel, who lays foundations, and Belit, who brings fertility, affords evidence that the goddess was the feminine form of Polaris. In Assyria, Belit appears, either as the wife of Bel, as the consort of Ashur, as the consort of Ea, or simply as a designation for Ishtar, *i. e.* "the goddess," the "mistress of countries, or of mountains," in which connection it is interesting to note that the ideographs for country and mountain are identical in Assyrian.

If the attributes of the goddesses of the Babylonian and Assyrian pantheon be carefully examined, they will be found to associate the female principle with fertility, abundance and with water, the source of plant life. Two divergent views appear to have influenced the artificial formation of personifications of the female principle in nature. According to one the goddess is termed the "lady of the deep, the mistress of the place where the fish dwell" (Sarpanitam-erua) and in other cases is linked to the lower firmament to subterraneous regions, to darkness, death, destructiveness and hence to evil, thus representing the complement to the male personification

of the upper realm of daylight and the preservative and beneficent life-giving principles. The other tendency, which almost appears as a reaction or protest against the previous view, led to the ultimate adoption of an ideal goddess of the nocturnal heaven, who was "bountiful, offspring-producing, silvery bright" and was in one instance addressed as "the lady of shining waters," of "purification" and of "incantations." In the period of Hammurabi, [pg 342] devotion went so far as to cause the goddess Gula, termed the "bride of the earth," to be invoked as the "creator of mankind," the "great physician" and "life-giver" and "the one who leads the dead to a new life" (Jastrow, *op. cit.* p. 175).

As an interesting outcome of an adjustment of both trains of thought stands Ishtar-Belit = the lady *par excellence* and consequently, the feminine personification of Polaris, the supreme goddess whom Tiglath-pileser termed "the first among the gods." She is the mild and gracious mother of creation, "loves the king and his priesthood," but is also the mighty commanding goddess of war who clothes herself in fiery flame, appears as a violent destroyer and sends down streams of fire upon her enemies. "The distinguishing position of both the Babylonian and Assyrian Ishtar is her independent position. Though at times brought into close contact with Ashur she is not regarded as the mere consort to any god—no mere reflection of a male deity, but ruling in her own right on a perfect par with the great gods of the pantheon. She is coequal in rank and splendor with Ashur. Her name becomes synonymous for goddess as Marduk becomes the synonym for god. The female deities, both foreign and native, came to be regarded as so many forms of Ishtar."

A curious fact connected with Ishtar, which proves that she had developed from an original divinity, conceived as dual or bi-sexual, is that among Semites Ishtar appears both as a male and female deity. This seems to show that at a certain stage of thought Ishtar was also a centralization of attributes, a fact which undoubtedly

explains the supreme position accorded to this divinity at one time as the feminine form of Polaris. The most striking illustration of this supremacy is furnished by the famous bas-relief figured by Layard ("Ninive and its remains" I, 238), which represents Ishtar, the mother-goddess, the female form of Assur, as seated on a throne which is borne on the back of a lion in the procession formed by the seven chief divinities of the Assyrian pantheon, six of whom are figured as bearded men standing on different animals. On the fine stela of Esarhaddon, discovered by Dr. von Luschan at Sendschirli, the goddess, accompanied in this case by three standing gods, is likewise represented as seated on a throne holding a large ring or circle in her left hand.

The fact that the "All-mother, the female creator of mankind," is represented as the only occupant of the throne, reveals a distinct [pg 343] phase in the evolution of the Babylonian state religion, which curiously concurs with the supremacy of female sovereignty at Babylon, at the period of its greatest power under Semiramis. It may be safely assumed that it was at this time, when the queen represented the goddess, that the cult of the female principle of nature reached its highest development.

At Nippur the clay images chiefly represent Bel and Belit either separately or in combination, but figurines of Ishtar have also been found, in some cases representing her as nursing a child (Jastrow, *op. cit.* p. 674). It is probable that the symbols of duality connected with Ishtar had some reference to the mystic unity and duality of the mother and unborn child, and suggested the installation of the goddess as the most appropriate personification of creative and life-giving central power.[98]

It is as interesting to follow the complex train of thought which created an Ishtar as it is to realize that curious fact that, contrary to views held elsewhere, it was the male principle that was at one time most distinctly associated with earth in Babylonia-Assyria, while femininity was

linked to the nocturnal heaven. It is probable that priesthood encouraged the popular adoption of Bel, the masculine Polaris, as an earth, sun and morning-star god, while his consort Belit became a heaven, moon and evening-star goddess. Doubtlessly at an early period the cult of Polaris and the registration of circumpolar rotation was guarded in secrecy by the astronomer-priests. Tempting as it is to linger among the gods and goddesses of the Babylonian-Assyrian pantheon and to follow the spread of their influence, I shall limit myself to pointing out the change of [pg 344] government that accompanied the development and establishment of various divergent cults.

Indications that, as in China at the present day, a combined heaven and earth cult was practised in Babylonia-Assyria by male and female representatives of heaven and earth, are furnished by various detached pieces of information gleaned from Professor Jastrow's work. The priest-king was the “child” of Bel, and his living representative. As such he bore the divine titles of supreme lord, ruled the four regions of the earth, and became the representative of earth. Pagan authorities state that a virgin priestess officiated at times in the sanctuary of Bel and that there were three classes of priestesses devoted to the cult of Ishtar. They were called “the sacred ones” and carried out a mysterious ritual which had, however, originated “from naïve conceptions connected with the worship of the goddess of fertility.”

The use of sacred water and of fermented intoxicating wine entered into the cult of the life-giving principle and Babylonia ultimately becomes associated with “Mystery” and “the golden cup full of abominations” (Revelations XVII). Large terra cotta vases or jars have been found at Nippur and elsewhere, standing in front of the altar, and “the depth at which they were found is an indication of the antiquity and stability of the forms of worship in Babylonian temples. It may be proper to recall that, in the Solomonic temple likewise, there were a series of jars that

stood near the great altar in the court" (Jastrow, p. 653). One of the oldest sacred basins found in the ruins of a Babylonian temple "has a frieze of female figures in it, holding in their outstretched hands flagons from which they pour water," a fact which establishes the ritualistic association of female priestesses with water.

The later association of Ishtar with the moon and with the evening star, "the leader of the heavenly procession of stars," naturally exerted an influence over the ceremonial rites performed by the high priestess or queen, the living image of the goddess. "Mythological associations appear to have played a part in identifying the planet Venus with the goddess.... A widely spread nature myth, symbolizing the change of seasons, represents Ishtar the personification of fertility, the great mother of all that manifests life, as proceeding to the region of darkness and remaining there for some time. The disappearance of the planet Venus at [pg 345] certain seasons ... [and re-appearance] ... suggested the identification of this planet with Ishtar." The foregoing affords an explanation why Ishtar should have become identified with the west and also naturally suggests the probability that the cult of Ishtar gradually imposed upon its priestesses and its votaries of the female sex, the ceremonial observance of periods of retirement and seclusion, coinciding with the disappearance of the moon and evening star.

A critical examination of the accounts preserved of the Phœnician or Canaanite religion reveals that it consisted of an idealistic development of the Ishtar cult of Assyria. The fact that, ultimately, in Phœnicia, the cult of the female Astarte almost superseded that of the male Baal and that their joint cult, introduced into Palestine, seriously rivalled the monotheism of the Israelites, furnishes another indication that we have to deal here with the same marked divergence of cults which we have seen to result from a common basis in ancient America. In studying the Phœnician conception of Astarte as recorded by various authors, one is struck by its comparative

refinement and ideality although, as in ancient America, the cult of the female principle of nature was also accompanied by secret licentious ceremonials.

In the Astarte cult of Phœnicia we have precisely what might be expected to have been evolved by the descendants of an ancient race of star-watchers who, powerfully impressed by the antithesis of light and darkness and having become a nation of traders and seafarers, naturally adopted the nocturnal heaven and guiding stars as their chief object of worship. It does not seem improbable that it was to the less degrading association of the female principle with the nocturnal heaven[99] that woman owed, in lapse of time, the higher position she was accorded in the countries directly influenced by the Phœnician civilization, and notably in Greece and Rome.

[pg 346]
In Phœnicia, Astarte-Ishtar became the goddess of love and marriage. In Babylonia-Assyria the high-priestess, the living representative of the goddess, who, like the planet-goddess, periodically retired into darkness and seclusion and led a shadowy existence, appears to have originally shared equal honors with the "lord of earth" and to have delivered oracular utterances in subterraneous chambers. Throughout Babylonia, New Year's Day, which coincided with the beginning of the rainy season, was the occasion of "the marriage of the god and the goddess" *par excellence*, a rite which symbolized the "meeting of Heaven and Earth." Circumstantial evidence seems to prove, moreover, that, as in Peru, the annual consecrated union of the male and female personification of heaven and earth was followed by the marriage of young persons throughout the land, a custom which furnishes another indication of the original existence of an annual mating season for the human race. As it was at this period also that the priesthood approached the papakhu, the inner sanctuary, also termed the "assembly-room," "chamber of the oracle" and "of fates," and transmitted to the people

the irrevocable decrees of Marduk, it seems as though these ancient rulers practised a similar "abundance of lying and deceit for the advantage of the governed" as that advocated by Plato in his Republic;[100] exerted a stern control over the alliances formed and the number of marriages celebrated and endeavored to make these, as far as possible, sacred. The mere record that the Assyrian king Ashurbanipal claims to be the offspring of a pair of divinities personifying heaven and earth, appears to show that he was the offspring of the sacred divine union of the high priest and priestess, *i. e.* of divine birth. It is interesting to collate a few disconnected facts which appear to illustrate the natural and inevitable result of the institution of two cults ruled by separate representatives.

Sin-Gashid, of the dynasty of Uruk, mentions a temple built for the god and his consort, as "the seat of their joy." At Babylon, the "mother of great gods" dwelt within the precincts of the temple on the east side of the Euphrates known as Esagila, "the lofty house." When the city of Babylon extended as far as to include Borsippa, the temple known as Ezida, "the true house," was built for Marduk = Bel. At Lagash the temple of the "good lady" and mother stood in one quarter known as the "brilliant [pg 347] town" while the temple of her consort stood in the other of the two most ancient quarters of the town. The above facts acquire double significance when collated with the well-known fact that the palace of Semiramis, the great queen of Babylon, was built on the west bank of the Euphrates, opposite to the ancient palace of the king. A bridge united these royal residences which were otherwise separated by the river.

Under Semiramis, Babylonia was a nation under a single female ruler and this usurpation of power by a woman, accompanied as it was by the predominance of the originally naïve cult which had unconsciously fostered and ministered to perversion and depravity, preceded the decadence, disintegration and ultimate downfall of the empire. Many centuries previous, the instalment of a

female sovereign preceded the ruin of another empire in what we may assume to have been precisely the same way.

Professor Sayce informs us that, “about 3800 B.C., in northern Babylonia and in the city of Agadê or Akkad, arose the empire of Sargani-sarali = Sargon, and that Sargon's son, Naram-Sin, succeeded him in 3750 B.C. and continued the conquests of his grandfather.... Naram-Sin's son was Bingam-sar-ali. A queen, Ellat-gula, seems to have sat upon the throne not much later, and with her the dynasty may have come to an end. At any rate the empire of Akkad is heard of no more. But it left behind it a profound impression in western Asia, whose art and culture became Babylonian” (*op. cit.*).

The process of disintegration, which caused the Babylonian empire to crumble away, was doubtlessly hastened by its division into four regions, each of which in latter times possessed its capital and became the centre of various independent forms of rival cults. During many centuries Babylonia was closely associated with the cult of Marduk-Bel, the “lord of rest;” while Shamash, another form of the central supreme lord, was the deity of Larsa and Sippar.

At one time Ur became the headquarters for the cult of the moon-god Sin or Nannar. As, according to Babylonian notions, the sun does not properly belong to the heavens and plays an insignificant part in the calendrical system in comparison with the moon, sun-worship proper does not seem to have existed in Babylonia. At the same time it would seem as though when the “primitive sun” = Polaris became the hidden, secret god of the priest-astronomers, [pg 348] who determined the seasons by Ursa Major, the populace was taught to regard Bel as the personification of the diurnal sun and of the herald of day, the morning star.

When it is borne in mind how, as the empire spread, new cities were founded on the plan of the metropolis, that

each of these must therefore have been, in turn, governed by a pair of minor rulers, and had its own minor zikkurat, we can understand the various indications that exist showing how the ancient sacred capital of the state became the place of reunion for the minor "gods," who assembled there annually in the main sanctuary, and the fact that each minor chief necessarily required his dwelling place and tribal council-chamber, would account for the "references to zikkurats ... or special sanctuaries of some kind, which were erected within the sacred precinct of the main capital ..." (Jastrow, p. 637).

When it is realized that each zikkurat was an artificial "mountain" the description of Babylon in Revelations XVIII becomes clearly intelligible and is seen to apply to the seven-fold organization of the ancient empire which had become the centre of the debasing earth-worship ultimately identified with a female goddess. "And the woman which thou sawest is that great city which reigneth over the kings of the earth.... I saw a woman sit upon a scarlet colored beast ... having seven heads.... The seven heads are seven *mountains*, on which the woman sitteth ... and there are seven kings"....

Future investigation will doubtlessly furnish us with exact knowledge concerning the original relation of the governors of the "four regions" to the central ruler and of the "seven divisions" of the state to each other. It would be desirable to establish whether each territorial division and tribe bore the name of its tribal ancestor and whether these names agree with those of the seven chief "gods" of the pantheon, each of whom is associated with a celestial body, a day of the seven-day period and, as shown in the bas-relief already cited, with a different animal. I am strongly tempted to see in the latter traces of tribal totems and to connect the days of the week with the seven divisions of the population and some established form of rotation, employed for the government of the state, analogous to that I have found out in Ancient Mexico. With regard to the regulation of the calendar by certain

officials, the following facts are important: Professor Sayce tells us that, [pg 349] “in Assyria, the high-priest was the equal of the king and the king himself was a priest and the adopted child of Bel.” Under him were a number of grades of officials and officers. The land was divided into provinces whose “governors were selected from the highest aristocracy and who alone had the privilege of sharing with the king the office of limmu or eponymous archon after whom the year was named.” This office, which finds its analogy in China and Central America, is more clearly explained in the following passage: “The Assyrians were endowed with a keen sense of history and had invented a system of reckoning time by means of certain officers called limmi, who gave their names to the year” (Sayce, *op. cit.* p. 255).

Venturing to make a general statement, as a suggestion for future investigation, I should say that the ultimate result of the institution of two cults which were bound to grow in opposite directions, was the fall of the Babylonian empire under the degrading growth of perversion and depravity, linked to the cult of earth and night and bi-sexuality, and the rise of the Assyrian empire with a cult in which the ideas of light and darkness, night and day preponderated over those of sex. It may possibly have been as a reaction and protest against the prevailing rites of Babylonia that influenced the Assyrians in their adoption of two male rulers, the high-priest and the king. On the other hand, there are indications showing that possibly, in order to evade the ceremonial obligations of their position as the representative of the principle of fertility, several “goddesses” or female rulers of Babylonia transferred their seat of government, or placed the reins of government into the hands of a king. Thus Hammurabi tells us that he has restored the temple of the “lady” or “great lady” of Hallabi, a town near Sippar and that she had conferred upon him supreme authority over the Babylonian states, then engaged in fighting with each other. It is obvious that, as soon as concealment and mystery increasingly surrounded the cult of the female

principle, and warfare became habitual, the power and rôle of the female ruler must have become more and more "shadowy" and finally dwindled to the utterance of sacred oracles in dark concealed places of retirement and safety. Ultimately the cult of Ishtar appears to have become absolutely secret and hidden and shrouded in mystery and darkness. Its priestesses became the most famous oracle-givers of Assyria who imparted "divine knowledge concealed from men." In the eighth century B.C., Arbela became the centre of the cult of Ishtar and "developed [pg 350] a special school of theology marked by the attempt to accord a superior position to the goddess. In a series of eight oracles addressed to Esarhaddon six are given forth by women" (Jastrow, p. 342).

Inevitable as was the disintegration of the original state and religion, continual efforts appear to have been made even in Babylonia itself, to check the growth of a debasing ritual and the constant increase of the gods and goddesses which were installed as the rulers of each new town that was founded on the plan of the metropolis. Professor Jastrow tells us that "whenever the kings in their inscriptions mention the regular sacrifices, it is in almost all cases with reference to their re-institution of an old custom that had been allowed to fall into neglect (owing to the political disturbances which always affected the temples) and not as an innovation" ... (*op. cit.* p. 667). The tablet of Sippara, on which the image of Shamash is restored by the king on an ancient model, has already been described and on it appears the four-spoked wheel, the expressive symbol of a "primitive Sun." The primeval conception of a single, stable, changeless and central celestial power was evidently adhered to in ancient Babylonia by a small but faithful minority, and the constant growth of debasing practices and the manufacture of symbolical images to which reverence was paid and which were ultimately worshipped, awakened its constant disapproval and abhorrence. At a remote period we find the adherents to a stern monotheism establishing the Babylonian province of

The following account of the Hebrew religion, translated from Spamer's work (p. 297) already cited, will be found instructive:

"Originally there was no difference between the religion of the Hebrews and that of the neighboring tribes. The lord = Baal of Moab was named Kamosh, that of the Hebrews Yahwe. Yahwe was the national god, above all the god of battle.... Altars made of earth or unhewn stone were erected for him on mountains, hills or under green trees; next to the altar stood either a stone column (Masseba) or a sacred tree (Ashera). In the temple the image of Yahwe represented him in human form or, as in Dan or Bethel, in that of a bull. Next to Yahwe were other gods: first, Baal, the supreme lord of the world, who had a special temple in Jerusalem; secondly, Astarte, to whom Solomon built an altar near Jerusalem.

[pg 351]
"Solomon had also built altars to Kamosh, the god of the Moabites, to Milkom, the god of the Ammonites and in his temple other gods beside Yahwe were worshipped; amongst them a demi-god and a serpent of brass (Neshushtan) which was abolished later on by Hiskia. All of these gods, who were also worshipped by the neighbors of the enemies of Israel, became secondary to the tribal god to whom Israel owed its greatness.

"Yahwe becomes the first and mightiest, and is identified with El, the supreme god of the Semites, whose individuality is vague. On the other hand 'the Baal,' the principal god of all neighboring people, especially of the Phœnicians, possesses a marked individuality which excludes his identification with other gods. He is worshipped in separate centres of cult and becomes the rival of Yahwe...." The rivalry and the struggle for religious and political supremacy between the priests, prophets and followers of Yahwe, the god of heaven, and Baal, the lord of earth, culminated in about B.C. 837,

when the temple of the latter was destroyed and his priesthood killed.

"It was not until about 750 B.C., however, that the national god Yahwe became the acknowledged sole god of the universe next to whom all other gods were as mere phantoms.... A remarkable transformation took place about this time in the conception of a divinity and of morality; the moral precepts of religion were developed and clearly formulated and the ten commandments promulgated. As time progressed the voices of prophets and priesthood became more and more loud in condemnation of the use of idols and symbols of divinity. Hosea especially denounced the cult of Yahwe under the form of a bull; Jeremias went so far as to disapprove of the holy ark itself which stood in the temple of Jerusalem.

"Later on, when, about B.C. 621, one of the most important events in the history of mankind had taken place and the book of the law, the Sepher Hathora, was discovered by the high priest in the temple of Jerusalem, during its restoration, the Hebrew religion was reformed, reorganized and reëstablished on lines which favored the development of more refined and elevated religious teachings. All idols and symbols were abolished. Naught could destroy, however, the deeply rooted idea that it was in Jerusalem alone, or Mount Sion, that Yahwe was to be worshipped. This [pg 352] was the chosen site to which offerings and tithes were to be carried. As the chosen people of Yahwe, Israel was also to be a holy nation which was to distinguish itself by its superior religion and morality and, in order to do so, was to keep itself rigidly apart and aloof from other people.

"Thus this little nation cultivated and perfected the religious capabilities of the human race and laid the foundation for Christianity and the Islam."

Jerusalem, the ancient capital, occupied almost the centre of Canaan and was founded on Mount Zion, the highest elevation in the district. From time immemorial

Jerusalem has indeed contained a spot reputed to mark the centre of the world and a sacred stone is also venerated there to this day and is now associated, in a curious way, with the biblical account of Jacob's dream of a ladder reaching from earth to heaven.

It was obviously as a result of their deeply ingrained ideal of central power that the Israelites who migrated from Ur, the seat of moon-worship, and wandered into Palestine, engaged in a long struggle which ended in their successful capture, in 1050 B.C., of Jerusalem, the sacred city, situated in the centre of the land. The importance of this conquest to the Israelites can only be rightly estimated when it is realized that, during countless centuries, this single branch of the Semitic race had adhered to the cult of the central, changeless, ever-present and light-giving guiding star, and gradually developed the higher conception of an invisible, omnipotent and omniscient God. It will be seen that, while other branches of their race gradually developed separate cults of the dual principles of nature, they had remained faithful to the primeval recognition of a single pole-star and, rising to a loftier conception, constituted themselves the champions of a pure monotheism, disconnected from the cult of heaven and earth or sun and moon which, associated with dual reproductive principles, justly became the horror and abomination of the Israelites. It is interesting to recall the fact that, about 908 B.C., Jezebel, the wife of Ahab and daughter of the king of Tyre, set up the cult of the dual principles of nature in Israel and, destroying the priests and prophets of Jehovah, built a temple to Baal and Astarte and appointed 450 priests and 500 prophets to the respective service of these divinities. This historical incident furnishes a striking instance of the united cult of [pg 353] the Above and Below in direct antagonism to that of the Centre which had already developed into a definite and pure monotheism.[101]

ASSYRIA.

A study of the Assyrian symbols of royalty, which I recently had an opportunity of making at the British Museum, has led me to the conclusion that, in Assyria, during many centuries, a perfect equilibrium was maintained throughout the state which, by a strict coördination of all its parts, represented a harmonious entity.

An observation I have made, which may be worth noting, is that Assyria seems to occupy, in relation to Babylonia, somewhat the same position as Peru to the more ancient and greater centres of culture in Mexico and Central America. In the latter the original ground-plan of the archaic civilization seems to be lost and hidden under the ruin and devastation caused by the growth of diverging cults. In Peru and Assyria alike we seem to have examples of organizations starting afresh on the old plan or reversions to the primitive type of civil and religious government in which simplicity, order, balance and harmony were again restored and maintained. If I may venture to hazard a general observation about the ancient civilizations of Western Asia I should say that, whereas the primeval centre of primitive pole-star worship in Babylonia had, in course of time, brought forth as its highest development the monotheism of the Israelites, and as its lowest the cults of Ishtar and [pg 354] Bel, it also appears to have given birth to a reproduction of its former self, to the Assyrian empire, in which the most ancient form of culture was preserved intact, and in time spread its influence not only to other nations but also back to Babylonia itself.

As in Peru, it appears to have been the policy of the kings of Assyria, who had before them the results of an opposite course pursued at Babylonia, to discountenance the manufacture of symbolical images and the establishment of minor centres of government, the leading motive being to maintain the ideal of an absolute centralization of temporal and spiritual government and power. It is the opinion of leading Assyriologists that Assyria was a

colony founded by Semitic Babylonians and this conclusion is corroborated by the view I have advanced, namely, that, as Babylonia degenerated and abandoned the primeval ideas which nourished the germ of monotheism, those who adhered to this ideal after prolonged struggles separated themselves from their ancient mother, and founded new colonies, the administration and religion of which they established according to their wider experience and more advanced intellectual and moral development. A characteristic of Assyria seems to have been the institution of two male rulers, the high-priest and the king and the cult of the diurnal and nocturnal heaven, of day and night. As these features are in marked contrast to the Babylonian male and female rulers and the cult of heaven and earth and the reproductive principles, it would seem as though they had developed themselves from a prolonged cult of heaven alone by the inhabitants of Northern Babylonia, or that they were the result of a reform led about by the abuses to which the Babylonian cult had led. A curious development worth mentioning, even out of its chronological order, was when the Assyrian king Esarhaddon placed his two sons as single rulers upon the thrones of Babylonia and Assyria. It is known that these two brothers ruled in peace during twenty years and that then a great rebellion against the Assyrian rule took place, which ended in the conquest and destruction of Babylonia and the death of its king, whose half-brother, the Assyrian ruler Asurbanipal, thus became the sole ruler of Assyria and Babylonia.

Professor Jastrow tells us that, “as compared with Babylonia, Assyria was poor in the number of her temples.... The Assyrian rulers were much more concerned in rearing grand edifices for themselves. While the gods were not neglected in [pg 355] Assyria, one hears much more of the magnificent palaces erected by the kings than of temples and shrines.”

The above data suffice to show that the tendency of the

Assyrian monarchs was to indulge in self-glorification and to forget what some of his subjects never could: that his position had originally been that of an earthly representative only of a higher central, celestial power. As among some branches of the Semitic race, the conception of a divinity became more and more elevated until it reached the ideal of the Yahwe, “the only true god who was jealous of other gods and could brook none beside him.” To these uncompromising adherents of pure monotheism the royal titles of the Assyrian kings who styled themselves the rulers of the centre, of the four quarters of the earth and of the heavens, must indeed have appeared as a sacrilege.

The existence of such opposite views clearly explains the ultimate outbreak of hatred and war between monotheistic Israel and Juda and the ancient empires of Western Asia which shared, with them, a remote but common origin.

Returning to Assyria we find that this empire also, as it extended its four-fold capital Assur into four provinces and developed the cult of the high central power and the Heaven and Earth, gradually prepared in turn its own downfall by an inevitable process of disintegration. In time two great capitals grew up, situated to the northeast and northwest of the ancient metropolis of Assur, the original seat of the “kings of the four regions.” These capitals were Ninive, divided into four cities, and Arbela, also a “four-city.” The fact that the latter capital was the seat of Ishtar worship, further proves that, at one time, a definite separation of cults had also supervened in Assyria and that Assur and Ninive may at one time have been respectively centres of Polaris and sun worship. It is well known that when about B.C. 606 the great Assyrian empire was destroyed, it had four royal residences: Ninive, Dûr-Sarrukîn, Kalash and Assur, which were then burnt and levelled to the ground, never to be rebuilt.

Let us now examine the emblems of “divine royalty”

exhibited on the famous portrait stelæ of Assyrian kings preserved at the British Museum which strikingly confirm the view I advanced that the four-spoked wheel of Shamash on the Sippara tablet was the ancient restored image of the “primitive sun” Polaris and of circumpolar rotation.

[pg 356]
The Assyrian kings on the British Museum stelæ are represented as wearing the cross, between the signs for the moon and planet Venus, that occurs on the Sippara tablet. The four-spoked wheel thus explains itself as a “wheel-cross” and is found to have been employed in Assyria alternately with the plain cross; for the portrait statue of Asurnasirpal (about B.C. 880) represents the king wearing a chain about his neck from which hangs a cross between the Ishtar and moon emblems, and next to a symbol representing the lightning bolt of Ramman. In the background, next to the king's head, five emblems are sculptured, three of which are identical with those hanging from the chain, *i. e.* the eight-rayed “sun” of Ishtar, the moon Sin and the lightning bolt of Ramman. The *fifth emblem* consists of the royal conical cap with four horns and is represented separately to the right while the other four symbols form a compact group.

In the text Assur, Ramman, Sin, Shamash and Ishtar are invoked. As the symbols of Ishtar and Sin can be identified by the Sippara tablet, and the winged disk unquestionably pertains to Assur and the lightning bolt to Ramman, we find that the cap, simulating the central “holy mound” with four horns, must be the symbol of the remaining god Shamash. This inference appears to be corroborated by the circumstance that the *seventh* month was sacred to Shamash and that it was in this month that the lord of the holy mound built the seven-staged tower of Babylon. These facts authorize us to formulate the conclusion that the four-spoked wheel of the Sippara tablet, the cross hanging to the king's chain and the four-horned cap which, like the “square altar with four horns,”

simulated the “holy mound,” were alike symbols of Shamash, the “primitive Sun.”

On his portrait-stela king Shamsi-Rammanu the younger (B.C. 825-812), the grandson of Asurnasirpal, wears the cross only, hanging from his neck-chain and in the text invokes, according to Dr. von Luschan, only Nindar, who has been proven to be Shamash under another name or title. Nindar is identified in Professor Jastrow's hand-book with Ninsia, “a god of considerable importance, imported perhaps from some ancient site of Lagash” ... who “disappeared from the later pantheon.” ... (*op. cit.* pp. 90 and 91). It is interesting to find that the king, who like his ancient predecessor the Patesi or religious chief Shamsi-Ramman (B.C. 1850) bears the name of the god Shamash, wears as his only ornament [pg 357] the cross which so obviously expresses the royal title, “lord of the four regions.”

From Professor Jastrow (p. 107), we learn that it was customary for the early rulers of Babylon, at the beginning or the close of their dedicatory inscriptions, to parade a list of the divinities associated with the districts that they controlled. Gudea, for instance, enumerates eighteen deities, and these may be taken as indicative of the territorial extent of Gudea's jurisdiction. This custom affords an interesting explanation of the sculptured emblems of divinities and the invocations of their names on the above stelæ and shows that Asurnasirpal and his grandson ruled four districts from a fifth situated in the centre, whose emblem was the mound with four horns or the cross, both emblems of the royal “lord of the four regions.”

Bearing this custom in mind, we next note that, on his stela at the British Museum, Shalmaneser II, the son of Asurnasirpal, invokes not only three different divinities, but also one more than his father or son. His invocation is to Ashur, Shamash and Ishtar and to the Babylonian triad Anu, Bel and Ea. The emblems of the first three divinities

are the same as on the stelæ of his father and son, *i. e.* the winged disk, the mound-shaped, horned cap and the eight-rayed star. To Anu, Bel and Ea pertain the emblematic lightning bolt and moon which are clearly visible; and a third, almost effaced, group which, upon examination by Mr. Pinches, revealed the presence of six stars or circles. Dr. von Luschan infers that originally the group consisted of seven circles and was the same as that sculptured on the stelæ of Sargon (at Berlin), the bas-reliefs at Nahr-el-Kelb and at Bavian. On each of these the circles are grouped in two horizontal rows of three circles while the seventh circle stands to the right, in front and midway between both rows.

If we assume that the lightning bolt pertained to Anu, the upper, and the moon, the emblem of Night, to Ea, the lower firmament, we find that the seven-fold group falls to the lot of Bel and seems to coincide exactly with the recorded fact that the famous zikkurat of Bel at Babylon, for instance, consisted of seven stories; and that it was known as "the house of the seven divisions [regions] of the world," and that Babylon actually was at one time a seven-fold state, with seven "mountains" = gods = earthly rulers.

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Final, positive proof that Assyria, under Sargon II and Esarhaddon, like ancient Babylon, was organized into seven "districts," seems to be furnished by the seven symbols carved on their stelæ, accompanied by the group of seven circles which obviously expresses the same as the cuneiform character in the inscribed invocation, namely, the word "seven-fold-one" or "seven in one,"[102] which was obviously an appropriate designation for the empire as a whole, consisting as it did of seven tribal districts, associated with the seven directions in space to each of which was assigned a god, a mountain house, a color, an animal, a celestial body, a day and a symbol.

An extremely suggestive juxtaposition of the numeral

seven and a circle containing a group of five circles, resembling a flower with four petals, occurs on the Bavian tablet already cited, on which are also carved two emblems: the moon and winged disk; one compact detached group consisting of four altars (three surrounded by horns and one surmounted by a ram's head) and a second detached group consisting of a base into which four staffs or sceptres are inserted. These recur on the fine Sendschirli stela of Esarhaddon about which a few words remain to be said. It exhibits the numeral seven = the "seven in one" sign before the king, accompanied by four divinities mounted on animals, the first two being the god riding a double monster, and the seated goddess, both wearing the cone on the high royal cap. Carved close to the king's hand is the group of four staffs or sceptres, inserted in a horizontal base, which appear to be the emblems of his lordship over the four regions. Three of these are the same as on the Bavian relief: the first surmounted by a cone-shaped object[103] beneath which are two hanging ends of ribbons; the second consisting of a plain single staff, split so as to form two; the third surmounted by two animal heads, each with a single horn. The fourth [pg 359] sceptre on Esarhaddon's stela is like that represented as inserted into one of the altars on the Bavian stela, and terminates in a recurved ram's head. The fourth in the Bavian group of sceptres somewhat resembles the trident tripartite emblem which occurs on the Sargon stela and the Esarhaddon stela of Nahr-el-Kelb (*figured* by Dr. Luschan, *op. cit.* p. 20).

A fresh examination of the bas-relief of Maltaya, described by Layard and already alluded to, reveals a suggestive differentiation in the representations of the seven divinities in a row, at each end of which, facing the procession, stands a king. Considering that in Assyria there were governors, the *limmi*, who held offices of limited duration and gave their names to their years of office, the query naturally suggests itself whether the two "kings" may not also have ruled for fixed periods of seven

years, each one of which bore the name of one of the seven divisions.

It being an accepted fact that the institution of the Sabbath was of Chaldean and Babylonian origin, it is permissible to assign to the same source the institution of the seven-year period described in Leviticus XXV: "But the seventh year shall be a sabbath of rest unto the land.... And thou shalt number seven Sabbaths of years unto thee, seven times seven years; and the space of the seven sabbaths of years shall be unto thee forty-nine years.... And ye shall hallow the fiftieth year"....

Addressing to Assyriologists an appeal for fuller knowledge concerning the ancient calendar periods of Babylonia-Assyria, I now revert to the Maltaya bas-relief and point out that, of the seven divinities, the two principal ones, a god and goddess, wear a form of cap encircled by horns and surmounted by a cone. One of these two deities is distinguished from all others by his larger size and by the fact that he stands on a double animal and heads the procession holding a recurved sceptre in his hand. Behind him follows the goddess Ishtar, holding a large ring in her right hand. Her throne, as on the Sendschirli stela, exhibits a ring surmounting its high back, to the side of which a group of four circles or disks are attached. As several centres of Ishtar cult, already mentioned, have been designated as fourfold cities it seems possible that the four disks alluded to this fact, while the ring crowning the top of the throne, and that she holds, constitutes one of her emblems.... However this may be, both monuments exhibit kings associated with the number seven and Ishtar, the seated goddess, associated [pg 360] with the number four; facts which claim further investigation and may lead to interesting verifications of the numerical systems of the Assyrians. It should be mentioned here that the heads of the five remaining divinities, on the Maltaya bas-relief, are surmounted by a wheel with spokes and that one holds a recurved sceptre, like that of the first, another

bears the lightning bolt of Ramman, while three carry the same peculiar double symbol also held by Shamash on the Sippara tablet. It consists of a large ring like that held by Ishtar and a short staff possibly a fire-stick. In each case the fingers of the right hand of the deity clasp the middle of the staff and the ring and the appearance of the combined rod and circle closely resembles the upper portion of the Egyptian crux ansata. Professor von Luschan has, indeed, expressed the opinion that the ring or circle (of Ishtar) the rod and circle (of Shamash) and the crux ansata must have analogous meanings, a view I fully share and shall further support in dealing with the Egyptian symbol.

The following data will be found to substantiate further the evidence produced concerning the seven-fold organization of Babylonia-Assyria. One of the finest bas-relief tablets at the British Museum excavated by Layard from the ruins of Asurnasirpal's palace at Nimroud represents in its centre the sacred conventionalized ashera = tree, above which is the winged circle, from the centre of which issues the half figure of the god Assur (*cf.* fig. 71, 1). To its right stand two winged figures wearing the conical crown with four horns, and necklaces from which hang its reproduction in miniature, also the cross, the symbol of Ishtar and the moon. To the left of the tree stand two personages, wearing the high cap with a flat top, central cone and hanging ends, such as are frequently represented as worn by the kings. The natural inference would be that the winged figures wearing the cap with horns represent high-priests and that a double hierarchy corresponding to the dual monarchy probably existed at one time, the result being “four lords,” two celestial and two terrestrial, corresponding to the “four regions,” two of which pertained to the Above or the heaven and two to the Below or earth. A curious indication that at one time there were four separate rulers of the four regions is furnished by the cap with four horns and the altar whose four corners terminated in horns, when they are connected with the passage in Revelations XVII, which

refers to Babylonian symbolism and [pg 361] states: “And the ten horns that thou sawest are ten kings.” Professor Jastrow states that “similar horns existed on the Hebrew and Phœnician altars,” and that “if we may believe Herodotus, the great altars at Babylon were made of gold” (p. 652).

Doubtlessly, Assyrian texts contain a fund of information yet inaccessible to students, concerning the constitution of the state and the modifications it may have undergone in course of time. An exhaustive study of the symbols connected with Assyrian kings at different dates, in connection with the text relating his conquests and foundations of temples, may yet reveal the occasional assumption or usurpation by a single individual of different degrees of power and, possibly, the ultimate separation and antagonism of hierarchy and monarchy.

The employment in Assyria and Babylonia of the tree, as a sacred symbol, should next be considered, first, in relation to the other symbols to which great religious importance was attached. The significance of the zikkurat, or seven-staged tower, has already been discussed. Another feature was “the great basin known as ‘Apsu,’ the name, it will be recalled, for ‘the deep’ [*i. e.* the lower firmament]. The name indicates that it was a symbolical representation of the domain of Ea. The zikkurat itself being an attempt to reproduce the shape of the earth, the representation of the ‘apsu’ would suggest itself as a natural accessory to the temple. The zikkurat and the basin together would thus become the living symbols of the current cosmological conceptions. The comparison with the great 'sea' that stood in the court of Solomon's temple, naturally suggests itself, and there can be little doubt that the latter is an imitation of a Babylonian model” (Jastrow, *op. cit.* 653). It is evident from the above that the adoption of the sacred basin as the symbol of Ea would naturally be simultaneous with that of miniature “basins” and water bowls and jars, employed for holding the sacred water used in the cult of

the Below. Reflection shows that, in the zikkurat, the seat of Bel = the image of the earth, and in the "Apsu" the watery deep and lower firmament of Ea, we have the sacred emblems of two deities of the Babylonian triad only. The emblem of Anu, the Heaven or upper firmament, is missing and it is naturally in the cult of Anshar = Ashur that it must be sought for. The following data will sufficiently show that it was the tree or pole and, in all probability, the fire-stick that were connected with the cult of An-shar = "all that [pg 362] is above," or "on high." The resemblance of the name Ashur to the word for tree or pole, the "Ashera" of the Phœnicians and Hebrews, suggests, moreover, the probability of their common origin.

An interesting question on which I have not, as yet, been able to obtain information, relates to the mode of producing fire, resorted to by the Babylonian-Assyrians. The element was, of course, associated with heaven, and the fire-god under the name of Gibil or Nusku was termed the "son of Anu." Shamash himself also figures as a personification of fire and it seems probable that, in the Babylonian temples in the centre of the square altar, a fire was originally kept perpetually burning as an image of Polaris. As great stress is laid upon the purifying effect of fire as on that of water in Babylonian literature, it is easy to trace the origin of the offering of burnt sacrifices to the idea that, cast into the sacred fire, they became purified and absorbed into its essence, *i. e.* accepted by the sacred living image of the central star-god. It seems extremely probable that the primitive employment of a fire-stick by the priesthood, for the production of "celestial fire," may have played an important rôle in causing the stick, and thence the pole and tree, to have become the adopted symbol of Anu. So little is known even about the origin of "tree-worship" itself in ancient Babylonia-Assyria that Professor Jastrow advances the following statement (p. 689).

"On the seal cylinders there is frequently represented a pole or a conventionalized form of a tree, generally in connection with a design illustrating the worship of a deity. This symbol is clearly a survival of some tree worship that was once popular. The comparison with the *ashera* and pole worship among Phœnicians and Hebrews is fully justified and is a proof of the great antiquity of the symbols which, without becoming a formal part of the later cult, retained in some measure a hold upon the popular mind.

"'Ashur' became the god of Assyria as the rulers of the city of Ashur grew in power ... in the various changes of official residences that took place in the course of Assyrian history ... the god took part and his central seat of worship depended upon the place that the kings chose for their official residence ... there was always one place —the official residence—which formed the central spot of worship. There the god was supposed to dwell for the time being. One factor, perhaps, that ought to be taken [pg 363] into consideration, in accounting for this movable disposition of the god was that he was not symbolized exclusively by a statue.... His chief symbol was a standard that could be carried from place to place.... The standard consisted of *a pole* surrounded by a disk enclosed within two wings, while above the disk stood the figure of a warrior in the act of shooting an arrow (*cf.* fig. 65, 5).... The standard ... which was so made that it could be carried into the thick of the fray in order to assure the army of the god's presence[104] ... followed the camp everywhere and when the kings chose to fix upon a new place for their military encampment ... the standard would repose in the place selected" (Jastrow, *op. cit.* p. 194). To one who like myself has devoted years to the study of the symbolism of primitive people and is familiar with the ancient Mexican image of the "lord of the North" standing in the centre of a horizontally-placed cross-figure, and with the Chichimecan custom, on taking possession of new territory, to shoot arrows towards the cardinal points, the Ashur standard suggests a single explanation, namely, that it was the symbol of celestial, central rulership and that the god, standing on a staff which could be turned and aiming his arrow towards the four directions in succession, was an expressive image of Polaris and Septentriones.

Further ideas associated with the tree by the Babylonian-Assyrians are clear since Professor E. B. Tylor has so conclusively shown that certain bas-reliefs represent the act of artificially fertilizing the palm tree by scattering the

male blossom from its cone-shaped bunch, over the female palm. In each case this rite is being performed by figures with human bodies and large wings, *i. e.* high priests of heaven, and it seems evident that it symbolized the mystic life-producing union of heaven and earth or of the male and female principles of nature which marked the Babylonian-Assyrian [pg 364] New Year's Day. Given these associations of thought, it is easy to see how the New Year became the festival of New Life and how the fertilized tree became the “tree of life,” and its sculptured image a memorial of a new year, possibly recording some record of the actual marriages which took place in the state on that day. The decipherment and comparison of the inscriptions on such tablets, by skilled Assyriologists, can alone enlighten us on this point, but enough appears apparent to explain how the tree could have become associated in Assyria not only with life, but with the life and growth of the state. Moreover the tree or pole itself, named ashera, may well have appeared to some Euphratean people, to express the name Ashur sufficiently clear to become its symbol and “canting arms.”

The adoption of the shaft or pole, as a symbol of the Celestial Centre, may easily be explained by the fact that, stuck into the ground and watched from a certain position, its upper end would seem to touch Polaris and it thus supplied wandering star-observers with a point of fixity in space which, being transportable, facilitated the registration of circumpolar rotation. During many centuries the image of the “crooked serpent,” Nakkasch, the constellation which could be seen each night winding its way around the pole, must have deeply impressed itself upon the minds of the primitive star gazers of the Euphratean valley, and conveyed suggestions of imagery, one of which may have created the Phœnician caduceus. At a later period when Ursa Major became circumpolar, the “seven lights of heaven” became in turn associated with the stable centre and suggested, in time, the seven-branched candlestick of the Hebrews which is to this day constructed with a central or principal holder, associated

with stability. It is remarkable to note the same ancient fundamental association in the elevated and beautiful imagery employed by the descendant of ancient Euphratean star-worshippers, in Revelation IV, in describing his vision: "... And, behold, a throne *was set* in heaven, and *one* sat on the throne.... And there were seven lamps of fire burning before the throne.... And before the throne there was a sea of glass like unto crystal: and in the midst of the throne and round about the throne were four beasts...."

The idea cited by Mr. Robert Brown, of the sacred pole-tree with golden apples guarded by the constellation Nakkasch, has already been mentioned and to this ancient image should be added [pg 365] the celestial tree of life set in the midst of the garden of Paradise, whence "went out a river to water the garden and from thence it was parted and became four heads."... It is as easy to see how the standard of Assur, which always marked the central place of worship, should have been evolved, as it is to realize why the fire-stick, rod or sceptre should have been adopted by monarchs as an emblem of central rulership, and why, finally, each centre of government should have adopted some specific symbol which, mounted on the staff, became its tribal or national emblem. It does not appear hazardous to designate as such the ornamented staffs already described, which are represented on the bas-reliefs, in groups of four, a number agreeing with that of the "four regions." It has already been pointed out that a group of four sceptres, corresponding to the royal title "lord of four regions," is carved close to the hand of Esarhaddon on the fine Sendschirli tablet at Berlin.

In Babylonia, the local deity of Girsu was entitled "the lord of the true sceptre," "the lord of the right-hand sceptre," a name which implies that, where dual rulership prevailed, a distinction was made between right-hand and left-hand sceptres, a point to which I shall revert later on in dealing with Egypt. In Northern Assyria when the cult of Nabu superseded that of Marduk, his temple was

named “the house of the sceptre of the world” and Nebuchadnezzar declares that it is he “who gives the sceptre of sovereignty to kings to rule over the land” (Jastrow, *op. cit.* 129).

Simultaneously with the staff, the cross and wheel also became emblems of sovereignty. It has already been shown that the cross and four-spoked wheel of Shamash were synonymous signs. It remains to be shown how the wheel was employed in Babylonia and Assyria as an emblem of royalty. The representation of Shamash at Sippar exhibits his wheel resting, in a perpendicular position, on a table. Attached to the wheel are two cords which are held by a “god” and his consort, who appear to be directing the course of the wheel. We thus see that, whereas the disk or wheel of Assur, the central god, revolved on its own axis, and was provided with wings, signifying aërial and celestial motion, the wheel of Shamash was associated with a “lord and lady,” and the symbolism appears to express that they were the directors of the “wheel of the law” of terrestrial government. It is well known that, beside the throne, [pg 366] the emblem of permanent repose, the Assyrian monarchs also used the chariot as a royal prerogative.

In the Gilgamesh epic the goddess Ishtar, on conferring sovereignty upon Gilgamesh, says: “I will place thee on a chariot of lapis-lazuli and gold, with wheels of gold....” On studying the Nimroud bas-reliefs in the British Museum I noted the fact that the trappings of the horse driven by king Asurnasirpal, who is represented as standing in his two-wheeled chariot, are decorated with crosses. It is impossible not to recognize the affinity of the “wheel of the law” and the “lord of the wheel” of India with the Assyrian symbols of Polaris and of central rulership and to appreciate the naïve ingenuity of the idea of making the driving of the chariot by the king represent his control of the rotating wheels of state and government of the four quarters from a stable centre.[105]

As another example of the Assyrian employment of the cross-symbol, the bas-relief at the Ashmolean Museum, Oxford, should be mentioned, as it displays a winged bird-headed human figure, whose garments are embroidered with crosses.

King Asurnasirpal, who is alternately figured on his throne or in his chariot, is frequently represented as wearing on his garments and bracelets another familiar and expressive emblem of centralization and unity in diversity, the composite flower or rosette.

The sacred ship or ark of the Babylonian temple remains to be discussed. Diodorus Seculus says that, according to Babylonian notions, "the world is 'a boat turned upside down' and resting on the waters. The appearance in outline of this image presented the three divisions of the universe: the heavens = Anu upheld by the serpent body of Tiamat; the earth, the dwelling of Bel-Marduk, the 'chief of gods;' and the watery deep or 'Apsu' beneath, the dwelling of Ea" (Jastrow). This imagery authorizes the inference that the sacred ship or ark was associated with this conception of the earth as a boat resting on the line dividing the sky from the watery deep. It can readily be seen how a maritime people would be inclined to fancy that the celestial bodies floated in the sky on invisible boats and that a single one among them was apparently resting on a stable rock or mountain around which other [pg 367] stars circled perpetually. That an analogous train of thought should have caused the ultimate consecration of a tabernacle in the form of a ship, to the central deity, entitled "the great mountain," appears as inevitable as the idea that all life proceeded from this source. Professor Jastrow tells us that the early significance of the custom of carrying the gods in consecrated ships became lost, but that it survived in Babylonia and Egypt and that the ark of the Hebrews appears, similarly, to have been originally a ship of some kind. I am indebted to Dr. Wallis Budge for the interesting information that each day, in the temple of Ptah at

Memphis, an image of the god Seker was dragged around the altar by the priests.

Bringing the preceding tentative study of the ancient civilization of Babylonia-Assyria to a close, I venture to affirm that, imperfect as it is, it clearly establishes certain important points connected with the present investigation. It demonstrates that a primitive pole-star worship existed and still exists in the Euphratean valley, accompanied by the employment of the swastika or cross-symbol and by the identical fundamental set of ideas which form the basis not only of other Asiatic, but also of the American civilizations. The Middle is associated with special sanctity, fixity and supremacy of power and rule, extending in rotation over the Above and Below and Four Quarters. This seven-fold division of the universe extended throughout the entire organization of the state and gave rise to certain logical developments of thought and symbolism, analogous to those which have been traced elsewhere.

Postponing further comment, investigation will next be transferred to the valley of the Nile, whose inhabitants, at various periods of their history, came closely into contact with the people of Asia Minor.

EGYPT.

Pausing at the entrance to a much explored domain with a fitting realization of being a novice and an intruder therein, I find myself encouraged to advance by the frank admission recently made by one of the leading authorities in Egyptology. In his “Notes for travellers in Egypt,” Dr. Wallis Budge, the Assistant in the Department of Egyptian and Assyrian antiquities, of the British Museum, openly states that “the religion of the ancient Egyptians is one of the most difficult problems of Egyptology and though a [pg 368] great deal has been written about it during the last few years and many difficulties have been satisfactorily explained, there still remain unanswered a large number of questions connected with it. In all

religious texts the reader is always assumed to have a knowledge of the subject treated of by the writer, and no definite statement is made on the subject concerning which very little, comparatively, is known by students of to-day" (The Nile, London, 1890, p. 71).

After having traced, as I have done, throughout ancient America, China, India and Babylonia-Assyria, one and the same fundamental, artificial scheme of state organization, it was with keenest interest and a new sense of comprehension of the ancient Egyptian civilization that I noted certain facts which I shall now proceed to present.

They will be found to show that ancient Egypt supplies us with the instance of a civilization in which the fundamental set of ideas, developed from primitive pole-star worship, prevailed during thousands of years and had reached a high stage of evolution at a period anterior to about B.C. 4000.

TERRITORIAL DIVISIONS OF ANCIENT EGYPT.

According to Dr. Wallis Budge, the ancient Egyptians called their land Bak or Baket, Ta-Mera and Khem or Kamt, also Ta-Nehat, "the land of the sycamore" and the land of "the eye of Horus." It was divided into two parts: Upper Egypt, Ta-res or Ta-kema = "the southern land," symbolized by the vulture; and Lower Egypt, Ta-Meh, Mah-Ti or Meh-Ta, literally, "North-land," symbolized by the serpent. Two great ancient cities or capitals were respectively known as Annu Meht, "Annu of the North," and Annu Qemat, "Annu of the South." The kings of Egypt styled themselves Suten-Net, "King of the North and South" and Nebtaui, "lord of the two earths." As such the king wore the double crown made up of the tesher or net, the red crown of Northern or Lower Egypt and the hetet or het, the white crown of Southern or Upper Egypt (The Nile, p. 27).

It will be shown further on that the high white and low red crowns were respectively worn by the king and the

queen at a certain period of Egyptian history. It is well known that, in numerous pictorial representations, the Egyptian men are painted with red, but the women with white skins. The above facts show that there [pg 369] existed a curious association of red with the north and the male sex, and of white with the south and the female sex.[106]

It is a familiar fact that the Egyptian hieroglyph and determinative sign for town, city or village consisted of a circle with four divisions. The usual form of this sign, the phonetic value of which is nu or nut, is shown as fig. 60, 1, *a*. On a bas-relief preserved at the Ashmolean Museum, Oxford, I noted the variant 1, *b*. It is interesting to collate these signs with the cross-symbols (2) which express the sound of uu, un, and ur, and to note that the sign for a capital in Egypt contains a division into four = un or ur, and that the latter word is actually the familiar name of the famous centre in Babylonia where cities laid out in the form of a square and "four-god cities" existed, and the kings were termed "lords of the four regions" and "kings of Sumer and Akkad," the two ancient divisions of the Babylonian state.

It thus appears doubly significant that, in Egyptian, the word ur signifies "great, great one" and is also the name of a god, which is expressed in hieroglyphic writing by the cross, a mouth and a seated god, the determinative for divinity. What is more, ur-u = chiefs, ur-t = the name of a crown and ur-t = those who rest, all of which words show that the Egyptian ur was associated with the idea of divinity, greatness, crowned chieftainship, repose and the cross-symbol which is incorporated in nut, the sign for capital or city.

The fact that the symbols for the two great divisions of ancient Egypt, the red crown of Northern or Lower Egypt, and the white crown of Southern or Upper Egypt, are found surmounting the sign nut (3), sufficiently shows that this symbol also stood for an extended capital, a

state, and that both "lands" constituted at one time separate units or reproductions of the identical plan. Returning to the ancient capitals known as the "Annu of [pg 370] the North" and the "Annu of the South:" according to Dr. Wallis Budge the first occupied the site of Heliopolis and was identical with the city of On mentioned in Genesis (XLI: 45). The Annu Qemat was Hermonthis, the modern Menth, Armant or Erment, situated on the west bank of the Nile a little to the south of the ruins of Thebes. It is noteworthy that the name for Thebes, given in the cuneiform inscriptions and Hebrew scriptures, No (Ezek. XXX:4) and No-am-on (Nahum III:8), is in one case the simple inversion of On, the Hebrew name of Heliopolis, the Northern Annu, while in the second instance the name of Thebes incorporates both forms.

The allusion to the "square of the city of Edfu," and to buildings laid out on a square ground-plan, contained in inscriptions cited by Brugsch,[107] also furnishes an indication, which can doubtless be multiplied, that, as in Babylonia, Egyptian cities were sometimes built in the form of a square. In Egyptian hieroglyphics, the square (slightly elongated) is employed to express the consonant *p*. The sign appears to have been cryptic and to have constituted the symbol of the god Ptah, "The Opener," considered as the most ancient of Egyptian gods. According to Dr. Wallis Budge, "the sign is the picture of a door made up of a number of boards fastened together by three cross-pieces at the back, and there can be no doubt that the word for door was connected with the verb pth = to open, and that it was pronounced something like ptah (compare the Hebrew pethah). The sound of the first letter of ptah being *p*, the phonetic value of the door became *p*" (First steps in Egyptian, p. 5). To the above I add the observation that the plain square or outline of the door, without indications of boards and cross-pieces, is usually employed in the published texts. The association of the square, representing a door with three cross-beams, and expressing the sound ptah is particularly interesting

when connected with the word for earth or land = ta, and the method of expressing the word universe = taui, by the threefold repetition of the sign ta, which resembles a cross-beam (fig. 60, 5). An interesting association of the square with earth or land is seen in one of the signs for province or nome = sept or hesp, which consists of a series of squares, evidently representing theoretical territorial divisions and possibly a system of canal-irrigation. Other suggestive signs for sep consist of a circle containing two [pg 371] strokes; a circle enclosing four dots and a double circle (fig. 60, 4). It is interesting to find an isosceles triangle employed, with a slight addition, to express the word ta = land, as well as sept = province (fig. 60, 4 and 5), and to find on analyzing the circular sign for nut = sky, which is likewise the determinative for city, that it contains four triangles. These converge towards the centre, as do the triangular sides of the square pyramid, and thus the sign nut and the pyramid clearly appear to express a whole divided into four parts, the square form being connected with earth and the circle with the sky.

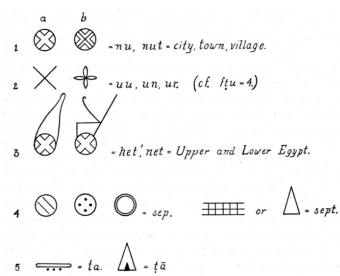

Figure 60.

A proof that the quadriform organization was extensively employed in ancient Egypt, is furnished by Dr. Wallis Budge's statement that each nome or province was divided into four parts, and had its capital or “nut.” The inference is that each nome constituted a miniature

reproduction of the state and that the sign nut represented its theoretical plan. On the other hand, the fact that the triangle constitutes one sign for the nome itself, indicates that, originally, the nome was identified as one of four divisions of the state only and that, like Babylon, Egypt must have been theoretically [pg 372] divided, not only into two main divisions, but also into four regions, corresponding to the

North = Meh-ta, literally North land.
West = Amen-ta, literally Hidden land.
South = Resu.
East = Aba.

In the extracts from the Pyramid texts published by Dr. Wallis Budge (Pyramid of Unas, Fifth dynasty), the following invocation occurs: "O gods of the west, O gods of the east, O gods of the south, O gods of the north, four these, who embrace *the four quarters of the earth holy*." These four quarters are represented in hieroglyphics by the sign for land = ta, repeated four times, which thus express, literally, "the four lands" or regions. Allusion is also made in the same inscription, to the "four fields of heaven."[108]

The four gods, termed by Egyptologists the "genii of the dead," were Amset or Mestha, Hapi, Tuaumutef and Kebhsenuf, and it was the custom to place the canopic vases representing them under the bier. The canopic vases were, however, also supposed to be under the protection of four sky goddesses, identified with the cardinal points, whose names are usually given as Isis, Nephthys, Neith and Serk-t(?). A particularly interesting instance of the employment of the cross-symbol in connection with the four "gods of the horizon," as they are termed, is to be found in the Book of the Dead, published by Lepsius and reproduced by Dr. Wallis Budge (Dwellers on the Nile, p. 158). The four gods in mummy form, stand in a line behind a table laden with offerings. A large crux decussata (St. Andrew's cross) is painted on the right

shoulder of the foremost god, a fact to which I shall revert and discuss further in dealing with the cross-symbol and swastika in Egypt. Having traced quadruplicate territorial divisions and quaternions of gods, let us next present proofs of an organization of the population into four "races."

Dr. Wallis Budge, referring to Chabas and Naville, states that "the Egyptians of the later empire believed that Ra-Harmachis, attacked [pg 373] his foes, who fled in all directions from before him. Those who came to the south became the Cushites, those who came to the north became the Amu, those who came to the west the Libyans and those who came to the east the Shasu, and thus were the four races of mankind made" (The Dwellers on the Nile, p. 53).

The fact that the Sphinx has been designated as the image of Ra-Harmachis *i. e.* Heru-em-chut and of his human representative, and that the distribution of people to the cardinal points and the origin of four races of men is assigned to him, are particularly interesting and suggestive, especially in connection with the familiar table of nations given by Moses, who says "and the sons of Ham, Cush and Mizraim and Phut and Canaan" (Gen. x:6). Dr. Wallis Budge states that Ham or Kham is the same as Khem and is the name Kamt, *i. e.* black, by which the Egyptians generally called their land. I venture to point out that in the following passages the name Ham seems to be more applicable to a deity such as Amen-Ra or to his human representative a king, than to Egypt itself: "And smote all the firstborn in Egypt and the chief of their strength *in the tabernacles of Ham*" and again "Wondrous works *in the land of Ham*."...

It is well known that Mizraim, the second name given above, was employed by the Hebrews as a designation for Egypt. The inhabitants of the region of Cush are represented on Egyptian monuments and we are told that "at the outset they appear to have had a religion and

speech akin to that of the Egyptians. We find Phut most probably, in the Punt of the inscriptions, the land ... situated to the south of Egypt on both sides of the Red sea. The fourth son [of Ham], Canaan, is represented by the original inhabitants of Canaan, who were probably near relations of the Egyptians" (Wallis Budge, The Dwellers on the Nile, p. 52). While tradition and documentary evidence thus associates the four sons of Ham with certain regions and cardinal points, Egyptian monuments exhibit representations of people of four different colors, *i. e.* red, yellow, black and white.

"The ancient Egyptians ... recognized four races of men. They themselves belonged to the 'Rot' or red men; the yellow men they called 'Namu'—it included the Asiatic races; the black men were called 'Nahsu,' and the white men 'Tam-hu.' The following figures (fig. 61) are copied from Nott and Gliddon's [pg 374] 'Types of Mankind,' p. 85, and were taken by them from the great works of Belzoni, Champollion and Lepsius" (Donelly, Atlantis, p. 195).

Pursuing our investigations of the territorial divisions of Egypt, we learn, from Mr. Wallis Budge, that collectively there were 42 nomes in Upper and Lower Egypt. This number is identical with that of the 42 gods represented in the Book of the Dead as being with Osiris in the hall of Two Truths where the dead were judged. The 42 "judges of the dead" are represented as seated figures, with human or animal heads, and are equally divided into two groups. From the "negative confession" which the deceased makes to his judges, we learn that each god was identified with a locality, some amongst them being addressed as "coming out from" such important cities as Heliopolis, Sais, Bubastis, etc. The inference I venture to make is that these 42 judges were the gods of the 42 nomes who, with Osiris, the chief god and the "President," formed the council of gods, which judged and ordered the affairs of men.

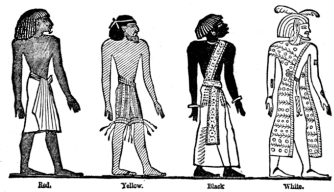

Figure 61. The Races Of Men According To The Egyptians.

It is moreover natural to suppose that terrestrial administrations of justice must also have been executed by a supreme council of men, composed of the king, the living image of Osiris, and the chiefs of the 42 nomes of Upper and Lower Egypt, who personified, [pg 375] as elsewhere, the totemic divinity of tribe or district. Postponing further discussion of the number 42, associated with nomes and gods, let us examine further data concerning the territorial organization of ancient Egypt.

Dr. Wallis Budge tells us that, “during the rule of the Greeks (B.C. 342-332), Egypt was divided into three parts: Upper, Central and Lower Egypt. Central Egypt consisted of seven nomes, and was called Heptanomis” (Nile, p. 28). The seven-storied pyramid of Sâkkarah and the employment of the signs expressing “three regions” and “four regions or lands,” to signify the whole land or universe, prove that, long before Greek rule, the ancient Egyptians, like the Babylonians, employed the heptameredal system. Thus, according to Herodotus, “There are seven classes of Egyptians, and of these some are called priests, others warriors, others herdsmen, others swineherds, others tradesmen, others interpreters and lastly pilots; such are the classes of Egyptians; they take their names from the employments they exercise” (Euterpe II, 164). Passages from Prof. Flinders Petrie's History of Egypt (Vol. II, pp. 156 and 185) afford,

moreover, instances of the conquest of a heptarchic government by an Egyptian king and the employment, in about B.C. 1500, of the number seven, as a mystic or sacred number, in a letter from a Syrian prince to the Egyptian king.

In the record of the triumphal return of Aa-kheperu-ra, the seventh king of the eighteenth dynasty (B.C. 1449-1423), it is said: “His Majesty returned in joy of heart to his father Amen; his own hand, with his mace, had struck down the seven chiefs, which were of the territory of Pakhsi (near Aleppo)”.... “Six of these enemies were hanged in front of the walls of Thebes; the seventh [probably the chief of chiefs], was brought to Nubin and was hanged on the wall of the town of Napata, to show forth for all time the victories of the king among all people of the negro land, inasmuch as he had taken possession of the nations of the south and he had bound the nations of the north and the ends of the whole extent of the earth on which the sun rises and sets, without finding any opposition, according to the command of his father Amen-ra of Thebes.” A letter from a Syrian prince to Amenhotep III (B.C. 1414-1379), opens thus: “To the king, my master, my god, my sun, this is said: Yatibiri, the servant, [pg 376] the dust of thy feet, at the feet of my king, my master, my god, my sun, seven times, and seven times more, I fall down.[109]”...

While the above data suffice to establish that more than a thousand years before Greek rule was established in Egypt its inhabitants were familiar with the seven-fold scheme of organization, the following extremely interesting portion of Brugsch's monumental work, already cited, indirectly teaches much concerning the divisions of the land of Egypt. The ancient Egyptian astronomers regarded the nocturnal heaven as the exact counterpart of the land of Egypt (I, p. 176). In the inscriptions, the firmament is frequently considered geographically, as a region comprising countries surrounded by seas and traversed by rivers and canals, and covered with cities and houses and

divided into nomes which corresponded to those of Egypt, excepting in point of number, there being thirty-six celestial nomes. According to the inscriptions and pictures in the royal tombs at Thebes, there was a celestial eastern sea (uat-ura abti), a western sea (uat-ura amentti) and a northern sea (uat-ura mahtet or mehtat). Special mention is made of “the waters” and land of the “northern place of light above the constellation of the Great Bear.”

The lands of Punet (Punt?), Uthenet, Kenemti and Sa-nutart-mahti, “the northern land of God” are designated, beside other names which correspond to the terrestrial geographical situation of outlying foreign countries known to the Egyptians. There was a celestial city, “Anu or On,” whose eastern and western sides or places of light are frequently mentioned. The mention of a single Anu or On, names which are found applied to the most ancient capitals of the land of Egypt, is particularly noteworthy. It will be shown further on, upon Sir Norman Lockyer's authority, that, in the exact centre of the circular zodiac at Denderah, the jackal, expressing the name Anubis, “is located at the pole of the equator and obviously represents the present Little Bear.” This and other data establish beyond a doubt that the celestial Anu, On or No, was supposed to be situated in Polaris and that the terrestrial capital was intended to be the counterpart of the apparent seat of central rule and government according to fixed laws and order of rotation. The idea that, after death, the human soul lived again in the celestial sphere is shown in the following address to a departed [pg 377] spirit contained in the Bulak papyrus cited by Brugsch: “The images of the gods of the Southern and Northern countries appear to thee in the thirty-six nomes; thou goest where they are as a perfect soul, thou doest what pleases thee in the heaven, thou art amongst the constellations of the thirty-six Beka.”

This word is rendered by Brugsch as the “Dekane” in German and I have been unable to find its exact equivalent in English. The Dekanes are alluded to in an

inscription from the Ptolemaic period cited by Brugsch (*op. cit.* I, p. 135) as follows: “They shine forth after the sun has set. They *run in a circle*, and continually release each other. They become apparent at sunset at hours varying with the seasons.” The Dekane constellations or stars were those which rose at the beginning of each decade or period of ten days, which constituted the Egyptian “week.” There were thirty-six or 4×9 of these in the Egyptian year, at the end of which an epact of five days was added, each day being consecrated to one of the five chief gods. Deferring the discussion of the Egyptian numerical calendaric system, I merely point out here the obvious agreement between the number of celestial nomes = 36, the number of decades in the year of 360 days to which should be added the familiar fact that each day and decade had its special “god.” Laying stress upon the point that in ancient Egypt we find thirty-six celestial, geographical districts, corresponding to the thirty-six decades of the year and to thirty-six gods, I take pleasure in pointing out how clearly the following passages of Sir Norman Lockyer's “Dawn of Astronomy” show that the thirty-six gods had as many human representatives, priests, who performed certain religious rites and homage in the chief temple in a fixed order of rotation. “Even at Philæ in late times, in the temple of Osiris, there were 360 bowls for sacrifices, which were filled daily with milk by a specified rotation of priests. At Acanthus there was a perforated cask into which one of the 360 priests poured water from the Nile daily;” an enforced act of obedience recalling the punishment of the daughters of Danaë. As Sir Norman Lockyer justly remarks “these temple ceremonials are an evidence of their antiquity and may be regarded as traditions preserved by the conservative priesthood.”

I am inclined to regard the above mentioned acts of empty homage as survivals of conditions strictly analogous to those which existed in ancient America, where each geographical district of the [pg 378] state was associated with a class of people under their

representative, and a day of the calendar on which obligations towards the central government, such as the paying of tribute, had to be performed in a fixed order of rotation, corresponding to the annual circuit of the circumpolar constellations around the pole star.

During centuries the most remarkable of these, Ursa Major, like the hand of a great celestial dial, moved by an unseen ruling power apparently located in Polaris, became visible after dusk and pointed towards the four quarters of heaven in succession, at intervals of nine decades of days. As in China and elsewhere at the present day, its position was referred to as a guide in determining time, during the night, and the seasons; and mankind became familiarized with the idea of a changeless inexorable law and order governing the universe and determining human periodical activities, and thus directly influencing individual lives. Added to this the idea of a heavenly kingdom, traversed by the celestial Nile, the Milky Way, and in which each familiar locality in Egypt had its counterpart, it is easy to follow the spread of the belief that there was a close connection between the stars and their terrestrial counterparts and that they directly influenced the destinies of individuals, each of which had its particular star in the sky.

The following portions of the decree inscribed B.C. 238 on the famous trilingual stela of Canopus, preserved at Gizeh, contain what appear to me to be distinct allusions to the ideal of a terrestrial kingdom, laid out and governed in accordance with the system and fixed laws observed as existing in the heavens and governing the movements of celestial bodies. The hieroglyphic text records the establishment of festivals “in accord with the existing fundamental laws upon which the heavens [the movements of heavenly bodies] are established.”... The Greek translation of this passage reads: “according to the now existing order of the world [universe]” and the demotic version is: “in accordance with the scheme, upon which the heaven is established ” (Brugsch, *op. cit.* I, p.

180). Further facts concerning celestial and terrestrial territorial divisions remain to be examined and discussed.

A number of representations exist in which the figure of the sky-goddess, Nut, appears as though stretched across the vault of heaven, her feet resting on the earth in the east and the tips of her fingers touching the horizon in the west. A study of certain texts cited by Brugsch clearly shows that it was for very practical and [pg 379] sensible reasons that the Egyptian astronomers had adopted the plan of an imaginary human form stretched across the nocturnal heaven, as it enabled the position of constellations and stars to be definitely located. Lepsius has shown that, in a series of inscriptions in the tombs of Ramses VI and Ramses IX, the movements and positions of stars are given in connection with the parts of an imaginary human form in the sky. It is thus said of a star that it was situated: "in the middle of the breast, in the right eye, the left eye, the right ear, the left ear, the right arm, the left arm, the left thigh."

Brugsch (*op. cit.* I, p. 187) quotes the opinion of Lepsius that the parts alluded to in the above inscriptions, referred to an imaginary male figure stretched across the firmament and viewed *en face*, and publishes a theoretical reconstruction of this imaginary figure. It recalls that of a Buddha and suggests the idea that the Egyptian schematical figure must have also been imagined as seated on the stable centre of the heaven. Egyptian astronomical texts, which I shall cite further on, appear to me to show distinctly that the lotus flower (the name for flower being ankh) was employed to express the sound ankh, which means "life" and that it occurs in connection with other symbols of the pole-star god.

Returning to the representations of Nut stretched across the sky, it should be noted that this employment of the human form belongs to the same category as the Sphinx, which appears to have been the terrestrial counterpart of the celestial schematical figure. On the other hand, the

sign nut, consisting of a circle with four divisions, like the pyramid, represents the successful attempt to express the same thought in abstract, geometrical form, such as would be intelligible to an initiated, intellectual minority only.

It will be seen further on that I advance the view that the pyramid, being a miniature reproduction of the scheme of the universe, contained a sacred central chamber, representing the sacred Middle, and that this was destined to be the "house of eternal repose" for the dead king, the representative of the universal god.

As Dr. Wallis Budge tells us: "If the deceased succeeds in passing the ordeal [of judgment after death] satisfactorily, he comes forth at once as a god (there is no place of probation), he becomes identified with Osiris, in whose shape his mummy is made" (The Dwellers on the Nile, p. 177).

The following text, from the inscription on an amulet found on [pg 380] the neck of the mummy of a young girl, preserved at the Berlin Museum, is explained in the official catalogue of the museum (p. 343), as signifying that "the mummy was supposed to lie in the centre of the whole world:" "The sky is locked over the earth, the earth is locked over the beyond and the beyond is locked over this strong mummy-case of the departed Osiris-Hathor-tsen-usire...." As the "beyond" in the inscription evidently signifies the "underworld," the idea that the mummy case, resting on the earth, was being pressed upon from beneath by the underworld, and from above by the sky, is clearly conveyed and is in keeping with the sign for universe, already alluded to, which represents three regions superposed. The "deification" of the mummy, which is named "Osiris-Hathor," is an interesting instance of the idea that the mummy became the image not only of the goddess Hathor but also of the god Osiris, or Ptah, who is usually represented in the form of a mummy.

A remarkable instance of a king in a pyramid being

actually worshipped and bearing the name of Ptah, added to his own, is given by Professor Flinders Petrie (*op. cit.* II, p. 257). "... The figure of the king Teta, entitled Teta-mer-en-ptah, is placed in a triangle, which is suggestive of a pyramid (as Men-nefer is written with the same triangle on this naos). Rather than suppose a new king at this period, we should see in this the worship of a pyramid king, Teta, of the sixth dynasty...." The association of Ptah, who is regarded as perhaps the oldest of all gods of Egypt, with the square = ptah and the pyramid and the mummy, is of extreme interest, especially as Egyptian texts contain references to "a single god, who becomes a quaternary of gods" (Brugsch II, 408), and we therefore see that the idea of Four in One was a familiar one. The personification of Ptah usually consists of a mummy holding a sceptre, expressing strength, life and stability. Under the form of Osiris he usually holds the curved sceptre denoting dominion, beside the symbols for life, rule and power, and is entitled the "lord of the holy land, lord of eternity, prince of everlasting, the president of the gods, and the head of the corridor of the tomb." Considering that in all pyramids hitherto explored, the corridor of the tomb is directed towards Polaris, it appears obvious that the supreme god of "life, strength, eternity, rule and power," was a personification of Polaris, the stability of which was naïvely expressed by the body in mummy form symbolizing [pg 381] the absolute repose and immobility of death, combined with an animated face and the symbols of living, active power.

As the divine land is expressly designated as the divine land of the north in astronomical texts and that this celestial region had its terrestrial counterpart, it is naturally in Lower Egypt, that the holy land of the north must be sought.

Investigation speedily proves that the most ancient vestiges of civilization are situated in the neighborhood of Memphis which, under the kings of the fourth and the sixth dynasties, reached its height of splendor. It is in the

land of the north, Meh-ta, that the extremely ancient seven-storied pyramid of Sakkârah lies, and that there exists the area of about thirty kilometers in which eighty pyramids are concentrated, and which constitutes the great burial ground of countless generations of Egyptians of all periods. A curious detail, to which I shall refer again, is the affinity in sound of the name for "north land," Meh-ta, and mit = death or the dead, and the undeniable resemblance of both words to the Nahuatl, ancient Mexican mictlan = the North, or underworld, from mic-quiztli = death and tlan = land (*cf.* Egyptian ta = land).

In Egypt, as elsewhere, the western horizon, below which sun, moon and stars disappeared, was naturally regarded as the entrance to the region of the underworld. The west being therefore designated amen-ta, "the hidden or concealed land or region," it is all the more significant to find the single entrance and exit corridor of each pyramid directed, not towards the west, the underworld, but towards the stable centre of the northern region of the sky. It would therefore seem as though the intention had been to establish a direct line of communication between the tomb chamber in the centre of the pyramid and the divine "northern land of God," the sacred mountain Manu and the shining celestial city Anu, lying "between the east and west," *i. e.* in the Middle, where the supreme star-god dwelt in eternal repose. An interesting proof that the longing of the souls of the dead tended towards the north is furnished by the common prayer-formula: "may my soul ... inhale the north-wind and drink from the stream."

Before advancing further, the following authoritative statements, establishing the supremacy of pole-star cult in ancient Egypt, should be presented.

According to Sir Norman Lockyer, "It seems extremely probable that the worship of circumpolar constellations went on in [pg 382] Babylonia as well as in Egypt in the earliest times we can get at" (*op. cit.* p. 363). "There can be no question that the chief ancient constellation in the

North was the Great Bear or, as it was then pictured, the Thigh (Meskhet)" (p. 216). "In the exact centre of the circular zodiac of Denderah we find the jackal [Anubis] located at the pole of the equator: it obviously represents the present Little Bear" (p. 362).

"With regard to Anubis, it is quite certain that the seven stars in Ursa Minor make a very good jackal with pendent tail, as generally represented by the Egyptians and that they form the nearest compact constellation to the pole of the ecliptic...."

Sir Norman Lockyer adds that he is informed by Dr. Wallis Budge that "An was an old name of the sun-god," but also states, in another page of his work that "the worship of Anubis, as god of the dead or the night god ... was supreme until the time of Men-kau-ra, the builder of the third pyramid of Gizeh" (B.C. 3633, Brugsch; B.C. 4100, Mariette; p. 363).

Pending the production of astronomical texts which amply demonstrate that An was a name of a god of the night sun, Polaris, the following establishes that, at Annu or Heliopolis, in remotest antiquity and amongst the pyramid builders, the cult of a northern star prevailed.

"The first civilization as yet glimpsed, so far as temple building goes, in Northern Egypt, represented by that at Annu, or Heliopolis, was a civilization which combined the cult of a northern star with a non-equinoctial solar worship".... "I know not whether the similarity in the words Anu, Annu and An results merely from a coincidence, but it is certainly singular that the most ancient temples in Lower Egypt (Heliopolis and Denderah) should be called Annu or An, if there be no connection with the Babylonian god Anu" (Lockyer, *op. cit.* p. 321).

The well-known fact that the entrance passage to the earliest pyramid known, that of Medum, and of all pyramids hitherto explored, has not only been found on

the north face of the structure but is also believed to have oriented towards “Sut-anup,” the pole-star (of the period of its construction), unquestionably proves that the pyramid builders assigned a particular importance to the north. Referring the reader to Sir Norman Lockyer's work for a mass of valuable and interesting information concerning the orientation of Egyptian temples, I merely quote the following statements [pg 383] which not only show that throughout Lower Egypt north-star worship existed, but also establish the interesting and important fact that in Upper Egypt a totally different astronomical cult was carried out during an unknown length of time.

“It is an important fact to bear in mind that in the North of Egypt, in early times, the stellar temples were more particularly directed to the north, while south of Thebes, so far as I know, there is only one temple so directed” (p. 225).... “From the astronomical point of view ... there are distinctly two series [of temples and monuments in general], (leaving out of consideration the great pyramid builders at Gizeh) absolutely dissimilar astronomically; ... there are at least two sets [of temple-builders], one going *up* the river building temples to the north stars, the other going down the river building temples to the south stars; and the two streams practically met at Thebes, or at all events they were both very fully represented there either together or successively.”

Sir Norman Lockyer proceeds to say: “The double origin of the people thus suggested on astronomical grounds may be the reason of the name of ‘double country,’ used especially in the titles of kings, of the employment of two crowns, and finally of the supposed sovereignty of Set over the north, and of Horus over the south divisions of the kingdom” (*op. cit.* p. 345). “In short, in Lower Egypt the temples are pointed to rising stars near the north point of the horizon, or setting north of west. In Upper Egypt we deal chiefly with temples directed to stars rising in the southeast, or setting low in the southwest. Here again we are in presence of ... distinct differences of

astronomical thought....” (p. 341). “With regard to the northern stars observed rising in high amplitudes, we have found traces of their worship in times so remote that in all probability at Annu and Denderah α Ursæ Majoris was used before it became circumpolar. We deal almost certainly with 5000 B.C.... *New* temples with nearly similar amplitudes ... were built at later times ... it may be suggested that the stellar observations made in them had ultimately to do with the determination of the hours of the night; this seems probable, for in Nubia at present, time at night is thus told.”

“It is possible that observations of these stars [which are nearest the pole and move most slowly] might have been made in such a [pg 384] way that, at the beginning of the evening the particular position of γ Draconis, for instance, might have been noted with regard to the pole-star; and seeing that the Egyptians thoroughly knew the length of the night and of the day in the different portions of the year, they could at once, the moment they had the starting-point afforded by the position of this star, practically use the circle of the stars round the north pole as the dial of a sort of celestial clock. May not this really have been the clock with which they have been credited? However long or short the night, the star which was at first above the pole-star after it had got round so that it was on a level with it, would have gone through a quarter of its revolution. In low northern latitudes, however, the southern stars would serve better for this purpose, since the circle of northern circumpolar stars would be much restricted. Hence there was a reason in such latitudes for preferring southern stars. With regard both to high north and south stars, then, we may in both cases be in presence of observations made to determine the time at night. So that the worship of Set, the determination of the time at night by means of the northern stars, might have been little popular with those who at Gebel Barkal and elsewhere in the south had used the southern ones for the same purpose ...” (p. 344).

Valuable and suggestive as these observations are, I venture to point out that the following texts appear to indicate very clearly that, as in China and Mesopotamia, in the present day, the ancient Egyptian high-priest and king on important public occasions simply utilized the conspicuous constellation of Ursa Major as a measurer of time.

In the account of the ceremonial used at the laying of the foundation of the temple at Edfû, it is stated that the king's glance was directed to the Ak or “Middle” and to Meskhet = Ursa Major. A part of the full translation of the inscription quoted from Nissen by Sir Norman Lockyer (*op. cit.*, pp. 176 and 179) represents the king as speaking, thus: “Looking to the sky and recognizing the 'ak' of the Bull's Thigh constellation, I establish the corners of the temple of Her Majesty.” It is further said “With his glance directed towards the ‘ak’ of the Bull's Thigh constellation he [the king] establishes the temple house of the mistress of Denderak, as took place there before.”

Having found out, by referring to Egyptian dictionaries, that [pg 385] er-ak means “in the middle,” and em-aka “in the midst or middle,” while Hak was a word employed for “king,” I suggest that these meanings afford a different and much more simple explanation of the “ak” mentioned in the inscription than that given by Sir Norman Lockyer and Dümichen. In dealing, further on, with the astronomical signs and names associated with the pole of the ecliptic, I shall, moreover, point out that the bull = ka, employed as an astronomical symbol of Ursa Major, may have been adopted as a cryptic sign for Polaris, merely because its name contained the letters of the word ak = the Middle. The recurrence of the same letters in Hak = king seems to explain also why the king of Egypt was entitled “the bull.”

Returning to the inscription relating to the ceremony of laying the foundation stone; in other texts cited by Sir Norman Lockyer we find the king saying: “I have grasped

the wooden peg [stake] and the handle of the club; I hold the rope with Sesheta [his female consort]. My glance follows the course of the stars; my eye is on Meskhet; standing as divider of time by his measuring instrument" (Duemichen's version) or "mine is the part of time of the number of the hour-clock " (Brugsch's version). In another part the king says "... I let my glance enter the constellation of the Thigh (representing the divider of time at his measuring instrument)" (Duemichen's translation) or "the part of my time stands in the place of his hour-clock" (Brugsch's translation). Sir Norman Lockyer notes that "the word merech or merechet, in which Brugsch suspects hour or water-clock, does not occur elsewhere."

Whatever differences there may be in the Brugsch and Duemichen translations and the interpretations of the word ak, the above texts establish that the Egyptian king directed his glance to "the Middle" and that the constellation Meskhet = Ursa Major was connected with time-measurement and the establishment of the four quarters of the temple.

As I shall show further on, the "Sesheta," mentioned in the text as performing the ceremony with the king, appears to be not a "mythical goddess," as Sir Norman Lockyer infers, but the living "divine queen," and consort of the king. She is represented with the insignia of Isis, whereas he wears the crown of Osiris, and I note that while she holds her stake in her left, he holds his in his right hand. Deferring a discussion of the position of Egyptian [pg 386] queens, I point out here that, in the interesting description of a foundation ceremonial, preserved in an inscription relating to the rebuilding of a temple at Abydos, about B.C. 1380, the Sesheta, entitled the "mistress of the laying of the foundation stone," seems to have been the chief actor, since it is she who addresses the king, as follows: "The hammer in my hand was of gold, as I struck the peg with it, and thou wast with me in thy capacity of Harpedonapt [?]. Thy hand held the spade

during the fixing of its [the temple's] four corners with accuracy by the four supports of heaven" (Lockyer, p. 175).

The "four supports of heaven" referred to here are obviously "the gods Mestha, Hapi, Tuamautef and Qebhsennuf," who are recorded in the Book of the Dead (chapter 17) as being "those which find themselves behind the constellation of the Thigh in the northern heaven." In an inscription in the kings' graves at Thebes mention is made of the "four Northern Genii who are the four gods of 'the follower' [obviously a circumpolar constellation]" (Lockyer, p. 147). They seem to be also identical with the "four constellations [Akhemusek] which are found in the northern heavens," and the "sailors or oarsmen in the bark of Ra," mentioned in the same and in many other inscriptions. The four "gods" are represented with human bodies respectively surmounted by the head of a man, an ape, a jackal and a hawk and are identical with the "genii of the dead," represented on the canopic vases placed at the four corners of the bier. In this connection attention is drawn to how clearly the symbolism of the mortuary customs becomes apparent when it is realized that the mummy, the image of Ptah-Osiris, and of the pole-star god, was laid to "eternal rest" in an imaginary "sacred centre," obtained by naïvely placing the effigies of the gods of the cardinal points, the personifications of the "four stars of the northern heaven," at the corners of the bier. The same dominant thought which underlies the popular use of the canopic vases clearly led to the building of the vast pyramids which constituted the sacred "centres of the world" par excellence, the square base typifying the four regions and "corners" of the earth; the triangular sides the four divisions of the sky, which converge to a single Middle, associated with Polaris, the sacred pole or ak of the Cosmos.

Returning to the subject of the measurement of time by means of the circumpolar constellations, it is instructive

to find that the [pg 387] Egyptian determinative sign for "time" consists of a central dot with a circle drawn around it and to note that the only celestial body that could be accurately figured as occupying the centre of a circle described around it is the primitive sun, Polaris.

The Egyptian for "time" is rek, an inversion of ker = the night, the common sign for which is a band, figuring the sky, from the centre of which a star is suspended by a thread. As the star is usually formed by two lines, diagonally crossed, at the end of the thread, there is a strong temptation to see in the hanging single star an actual representation of a cross symbol. It is particularly striking to find in Brugsch's work, that the determinative for time is actually represented, in numerous cases, as close to the single hanging star (fig. 62, 9). I leave it to the reader to form his own conclusions whether this group represents Polaris and the circuit of time measured by the circumpolar constellations, or whether it merely represents, as Brugsch states, the winter solstice, *i. e.* the day sun in the nocturnal sky.

There exists a remarkable variant of the determinative of time, which I shall discuss more fully further on. Instead of a mere dot, a five-pointed star is distinctly figured in the centre of the circle (fig. 62, 12). This variant furnishes, in my opinion, convincing proof of the meaning of the determinative for time, which also constituted the well-known sign for Ra = god, and forms a part of the name of the supreme divinity of Egypt, Amen, or Amon or Amun Ra, the "hidden or secret god," whose name contradicts the current assumption that Ra signifies the diurnal sun merely, and that Amen-Ra was a "solar" deity.

The following texts relating to the "supreme true but hidden god" amply demonstrate that the chief characteristic of his cult was that it was shrouded in secrecy and mystification. Others, which I shall quote farther on, allow us clearly to perceive that individuals

were obliged to pass through a series of initiations into the meanings of cabalistic signs and symbols of the divinity before they attained the pure knowledge of the nature of the mysterious, "hidden divinity." On reading the texts of the famous "Book of the Dead" it has frequently occurred to me that the negative confession and judgment of the soul of the departed may originally signify the actual confession and judgment of an applicant for initiation into the secrets of the priesthood and the astronomical and theological knowledge they so rigidly guarded from the ignorant [pg 388] multitude. The highest knowledge and most profound secret they could impart was doubtlessly the acknowledgment and perception of the existence of a supreme power which governed the universe on a certain plan, which the rulers of the land of Egypt endeavored to apply to its organization and government in order to make it a celestial kingdom upon earth.

The rigidly-adhered-to policy of the ruling caste was, however, the shrouding and concealment of their store of knowledge from the uninitiated and the gradual admission of select individuals to the inner chambers of secrecy. The following texts show that even the true name of the supreme divinity was wrapped in impenetrable mystery, but the assumption that we are dealing with a pole-star god seems to enable us to penetrate the obscurity of the formulæ employed by the scribes to veil the true meaning of the texts.

Beginning with the hymn published by Mr. Wallis Budge, in his useful handbook, "The Nile,"[110] we find Amen-Ra addressed as "King, *One* among the gods, *myriad are his names, how many are they, is not known* ... the lord of Law, *whose shrine is hidden, ... whose name is hidden from his children in his name Amen*."... In the legend of Ra and Isis (XXth dynasty) he is designated as "the god divine, the creator of himself, the creator of heaven, earth, breath of life, fire, gods, men, beasts, cattle, reptiles, fowl of the air, fish, king of men and gods, *in form one*, to whom periods

are as years, *many of names, not known are they, not know them the gods*."[111]

The mysterious supreme god is further spoken of in the hymn as ... "the lord of the uræus crown, exalted of the plumes; the serpent Mehen, and the two uræi are the (ornaments) of his face...." Mention is likewise made of his lordship over the Sekti boat (which sailed from the place of rising in the East) and the Atet boat (which sailed to the place of setting in the West); he is also addressed as the "god Khepera in his boat." In many passages he is apparently identified with the sun, "the eye of Horus," but is at the same time, also addressed as Ani, the lord of the New Moon festival and he is termed "*the lord of all the gods* whose appearances are in the horizon." His all-embracing nature is clearly conveyed by the passages terming him "the maker and [pg 389] lord of things which are below and of things which are above;" "of the heaven and earth." The above evidence suffices to show that, on the one hand, Amen-Ra is constantly referred to as the "One god, without a second, the knowledge of whose nature is concealed from men and gods, who reveals himself in innumerable forms; who exerts hidden control and universal dominion and is associated with stability and power, time and eternity." On the other hand, stress is laid on his dual nature: Amen-Ra is bi-sexual and self-creative; alternately becomes light and darkness; and the sun and moon are the eyes of his "hidden face," which, literally translated, yields Amen-Hra.

In the hymn previously cited he is also termed the "lord of the sky, the establisher of all things, ... the extender of foot-steps.... *One* in his times as among the gods...." He is apostrophized as "the maker of the gods, who hast stretched out the heavens and founded the earth," "the chief who makest the earth like unto himself,".... "President of the great cycle of the gods, *only one without*

his second ... living in Law every day.... O Form, *one*, creator of all things, O *one* only, maker of existences ... he giveth the breath of life to (the germ) in the egg.... Hail to thee, thou *only one*!... *He watches all people who sleep* ... all people adore thee.... O thou ... *the untiring watcher*, Amsu-amen lord of eternity, the Maker of Law....” Another passage states: “the aten (disk) is thy body” (*i. e.* image or symbol). In the legend of Ra and Isis, quoted above, the god is made to say of himself: “I am the maker of the hours, the creator of days, I am the opener of the festivals of the year.... I am he who when he opens his eyes [*i. e.* the sun and moon] becometh light, when he shutteth his two eyes, becometh darkness.” Brugsch tells us that Ra, whom he accepts as the day-sun, was addressed as the master of double or two-fold force, who illuminates the world with his two eyes and “was symbolized by two lions.” Further on I shall quote facts establishing that the king and queen of Egypt were respectively named the right and left eye of Amen-Ra, were associated with sun and moon, regarded as the personifications of Osiris and Isis, and that these deities were represented in the form of uræus serpents with human heads, and that the two serpents were employed as symbols of Upper and Lower Egypt. Mr. Wallis Budge informs us that Amen-Ra was named “bull ... in thy name of ‘Amen bull of [pg 390] his mother,’ and that he was entitled ‘lord of the thrones of the two lands;’ ‘king of the gods;’ ‘maker of mortals;’ ‘mighty law.’ ” In one of his forms he is represented as wearing horns (an allusion to duality and the title of bull) and feathers (=mat=maat=law) and holding the emblems of stability, power, dominion and rule.

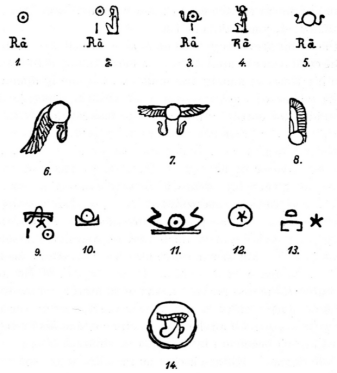

Figure 62.

Before demonstrating that the chief astronomical signs of the Egyptian zodiac partake of the nature of a rebus and express the sound of the various attributes and titles and some of the “myriad of names” of the “hidden god,” contained in the preceding texts, I point out how clearly the conception of Amen-Ra, as shown in these hymns and invocations, is consistent with a pole-star origin. We have, moreover, the authoritative opinion of Brugsch that “the hieroglyph and name Ra did not only refer to the day-sun, but also designated certain brilliant stars,” which he presumes to be the planets (*op. cit.* I, p. 79). This identification of the name Ra with stars involuntarily obliges one to recall the Sanscrit tara = star [pg 391] while the Chinese employment of a plain circle to designate “star,” also finds its analogy. Let us now examine the hieroglyphic signs and symbols of Ra and note how intelligible they become when the god is identified as Polaris.

The following (fig. 62) are some of the modes in which the name Ra is found expressed in texts published in Mr. Wallis Budge's “First steps in Egyptian:”

Fig. 62, 1. By a dot in the centre of a circle, the determinative of “time.”

2. By the latter accompanied by the image of a seated god and the numeral 1.

3. *Idem*, partly surrounded by a serpent in motion and accompanied by the numeral 1.

4. The serpent and circle on the head of a hawk-headed seated god.

To these are added for purposes of comparison

5. The circle with two uræi.

6. *Idem*, to which a single uræus and a wing are attached.

7. *Idem*, with two uræi and two wings.

8. *Idem*, with one wing.

9. *Idem*, accompanied by the numeral one and the sign for heaven, to which a cross-shaped star is hanging.

10. *Idem*, resting in the centre of the summit of a twin mountain.

11. *Idem*, resting in the centre of a boat.

12. *Idem*, with a central star instead of a dot constituting the word duat = "lower hemisphere" (Brugsch).

13. The variant of this, cited by Brugsch.

14. The disk containing a single eye.

My prolonged study of the ancient Mexican picture-writings having given me the habit of regarding each primitive symbol as a possible rebus led me to look up the phonetic values of the symbols combined with the Ra sign and to note that some of them were actually mentioned in connection with Amen-Ra in the texts cited above, namely: the face, the eye, the egg, the uræus, the disk, the "serpent Mehen." It was a surprise to find, on simply

referring to the glossaries, that the name for uræus = ara and that eye = ari; an egg = ar (also sa, se, and suht); face = hra; [pg 392] each word thus containing the name Ra = god, in simple or inverted form (see fig. 63, 1-4). The natural inference was that I had obtained an insight into the method devised by the ingenious Egyptian priesthood, to express, in cryptic form, the name of the "hidden god."

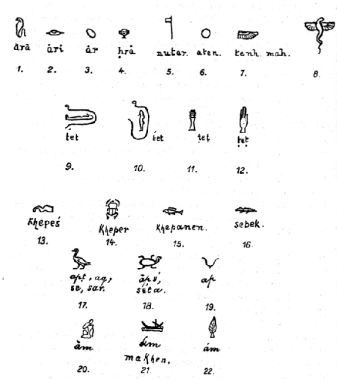

Figure 63.

Further glimpses of light seemed obtained when I found that, as written by German Egyptologists, the determinative for divinity, the banner = nutar, notar, netar, or neter, not only expressed the same sound as the word nut, but also contained the letters "r" and "a" (5). The disk = atun, aton or aten might also be regarded [pg 393] as an anagram, being the inverted form of nutar, minus the last letter (6). The names for wing (7) being tun, ton or ten, the wing attached to the disk constituted a complementary sign, duplicating the final syllable. At the same time, as a second name for wing was meh, or mah (*cf.* mat and its synonym su = feather), there seemed to be an explanation of the "serpent mehen" applied to Amen-Ra and the possibility that it signified the "winged serpent," such as is frequently depicted in texts published

by Brugsch (8). It was obvious that the uræus = ara and the wing meh, would form an ingenious anagram expressing, by means of the signs, a-meh-ra, the name Amen-Ra.

The constantly recurring form of the Ra sign, in which the serpent is represented as gliding around the circle, enclosing the central point of fixity, naturally suggests the inference that this variant must have been adopted at a time when the constellation Draco, the "Old serpent," or "Nakkasch qodmun," was circumpolar and was equally familiar, under this name, to the Egyptian and Euphratean astronomers. This inference seems to be confirmed by the fact that, in the hymn to Amen-Ra, cited above, the name Nak is given to "the serpent with knives stuck in his back," who, according to the myth, was the demon of night and the enemy of the sun-god, the ruler of day. The fact that, in the temple of Amen-Ra at Thebes, a service was recited daily for the destruction of the serpent Nak by Horus, appears to indicate the growth of the idea of a combat between light and darkness and the dual forces of nature, which would naturally tend to create the thought of an antagonism existing not only between the sexes, but also between the two divisions of Egypt and the separate cults of the nocturnal heaven (Polaris and the moon) and the diurnal heaven (the sun).

In the list of festivals, dating from the Ptolemaic period and inscribed in the temple at Edfu, there are mentioned: "the festival of the end or point of the triangle," simultaneous with that of "the serpent Nai or Na," immediately followed by "the festivals of the 'tena' = [aten?], and of the great serpent Na," and "of the Ken = the festival of darkness, and of the red serpent Na" (Brugsch *op. cit.* I, p. 51). Commenting upon the above names I draw attention to the curious fact that in the above word ken, we seem to have the inversion of nak, the name of the "night-serpent" and that na is actually the inversion of the word an, which [pg 394] signifies "he who turns or winds himself around." I shall show further

on, in astronomical texts, that this name is actually identified with the pole.

When these facts are borne in mind the full import of the familiar Egyptian symbol for eternity = tet, becomes clear. It consists of the image of a mummy, symbolizing fixity, around which a great serpent is winding itself, conveying the idea of circling motion (fig. 63, 9 and 10). It is well known that this group symbolized eternity = tet and the sign is always interpreted as expressing the sound tet. If analyzed more closely, however, and interpreted as a rebus, it appears to yield a fund of deeper meaning.

The serpent Na furnishes the word An = the winder or he who moves around. Linked to one of the names for mummy = sah, the group might be read as An-sah, a name which invites comparison with Anshar, the Assyrian pole-star god who was said to shoot arrows in all directions, *i. e.* to turn around, and the Akkadian title for Ursa Major, Akanna = the Lord of Heaven. The second name for mummy, given in Mr. Wallis Budge's Nile, is tut, the exact word which signifies “to engender,” which explains why images of the creator should have been made in mummy form. The word tut directs attention to the name of the god Tehuti = Thoth, “the Measurer,” a name to be weighed in connection with the fact that time was measured by the circumpolar constellations. It does not appear impossible that the word khat = corpse may also have been brought into use in the rebus and furnished an anagram or allusion to the ak or centre.

The other well-known symbol for eternity, *i. e.* stability, is the column tet, representing a pillar usually consisting of four or five parts (fig. 63, 11). It appears hitherto to have escaped attention that the Egyptian for hand being tet, the hand, employed as a rebus, would actually express the name for eternity and may well have been employed as a secret sign for the divine centre, eternal stability and the sacred number five, consisting of the Middle and the Four Quarters, symbolized by the fingers and thumb (fig. 63,

12). To this must be added the interesting fact that, in hieratic script, the hand expressed the sound “a” which means “power” while aa = great, aat = great and mighty, aa = mighty one. To those initiated in the mysteries of hieroglyphic writing the hand thus clearly constituted a rebus, expressing the eternal, permanent, stable, [pg 395] great, mighty power, one yet double and fourfold, the sacred five in one, the Middle and Four Quarters.[112]

The following is a group of animal and other figures, which are repeated, with variations of form, combination and position, in the different zodiacs.

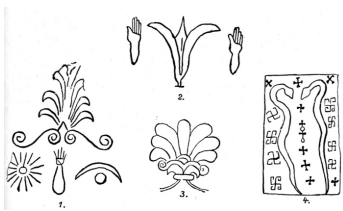

Figure 64.

The principal and the phonetic values of their names are figured as follows: the thigh = uart, khepes or maskhet; the bull, ox or cow = ka, ah, aua; the hawk = bak, designated as an, kher or heu = Horus; the cynocephalus ape and phallus = aaani and ka; the lion = mahes; the jackal (anubis) uher or sabi; the scorpion = tart or serkhet; the crocodile = sebek, also amsuk or emsuh, and seta; the vase or jar = nu (*cf.* nut); the female hippopotamus = tebt, shown by Dr. Gensler to have been associated with the name menat = nurse, she who nurses (see Brugsch I, p. 130).

[pg 396]

Plate V.

[pg 397]
In the Edfu zodiac, the latter, whose name furnishes an anagram of amen = hidden, is represented with the Ra sign on her head and holds a cord to which the constellation of Ursa Major is attached. This is figured, with its seven stars, as the thigh (pl. V, 2), with the head of a bull, elements which furnish the phonetic values of uart, khepes or maskhet and aua, ka or ah, to which should be added that the Egyptian mode of saying "a bull" = ua en ka, literally "one of bull," the female form being "uat en ka" (see Wallis Budge, First steps in Egyptian).

After having studied the hymns and invocations to Amen-Ra we are aware, not only that the "hidden god" is named "the bull," but that great stress is laid upon his being "One" = ua, yet double = ka. It therefore appears very significant to find these words incorporated in the name for Ursa Major = thigh, uart, and this combined with bull = ua or ka which furnishes the anagram ak = middle. What is more, the second name for thigh being khepes,

this might form a rebus for the common name for (1) luminary or star in general = khebs or khabs, literally, lights, lamps, flames, *cf.* seb = star; (2) kheper = life, existence, to come into existence, *cf.* khepdes = uterus, kher khepd = the navel, khepesh = power.

The fact that one title of Amen-Ra was Khepera = the creator, lends additional interest to the association of his secret sign, the hippopotamus, with the constellation Ursa Major, which he apparently holds and guides and which emblematizes life, *i. e.* motion—The thigh = khepes, scarab = kheper, fish, khepanen, crocodile = seta or sebek, which, inverted, yields the word khebes = star, and royal sickle = khepes, thus appear to have been but different modes of expressing the same meaning and the title of Khepera (fig. 63, 13-16). It can be readily understood why the scarab beetle, which encloses its egg in a ball of mud and rolls this to a safe hatching place, became the favorite secret sign for the "hidden god," since none but the initiated would see in the beetle, holding the ball of earth enclosing its egg, the actual rebus of Khepera, the creator, expressed by the kheper; and the circle or disk, the sign of Ra, containing the germ of life.

Returning to an examination of the signs for Ursa Major employed by the Egyptian astronomer scribes, we find, beside the more elaborate form given by Mr. Wallis Budge (pl. v, 3), the variants (4 and 5) which constantly recur in the texts published by Brugsch, and which reveal that the thigh, accompanied by a single [pg 398] star, constituted the essential elements of the sign. It is one of the curiosities of Egyptian hieroglyphics that the image of a star may express either seb = star, or the numeral five = tuau. This being the case, and the word for thigh being either khepes or uart, it is obvious that the thigh and star yield more than one interpretation from the rebus point of view, and may either be read as seb khepdes, seb-uart or tuau-uart—in one case containing the divine title "creator" and in the second a play upon the name ua = One, the favorite appellation given to

Amen-Ra.

The following star names contained in the Brugsch texts, and which have avowedly not been satisfactorily identified, up to the present, will speak for themselves and will be found to be comprehensible and appropriate only when identified with Polaris: Seb-uati = the lone, single, only, or sole star (*cf.* title "One" given to Amen-Ra); Seb-seta = the hidden star, in Greek texts, sebkhes, sebkhe, the sebses, anagrams of khebs, or khepdes (*cf.* "hidden" god). This star is found pictured in the astronomical texts by a turtle, the name for which is seta, sita, sit or set; in Greek texts cit.

To me it seems clear that the turtle constituted a rebus sign for the "hidden star" and concealed god, and I find that another Egyptian word could have served equally well for the same purpose, viz., seta = the vulture. What is more, the following names, mentioned in the astronomical texts, yield the sound of the first vowel of the words seb = star and seta = hidden, and attention is drawn to the fact that, as the goose and egg, for instance, were known under several names, the secrecy of the true meaning of these sacred symbols was insured: goose = se, ser, sar, seb, smen, apt, aq; egg = se, sa, ser, sar, ar, suht; nest = ses; pool of water = se; heron = sent.

A curious double similarity of sound exists between the name for turtle and one of the names for goose, inasmuch as the turtle = seta is also called aps, and the goose = se is named apt (fig. 63, 17-18). Another name for goose being aq or ak, we find that its value as a rebus must have been supreme, since it so perfectly expressed the word ak = middle. A proof that its merits were duly appreciated by the ancient scribes, is its constant and widespread employment in decorative art as a so-called "solar symbol," in association with the circle or disk and the swastika. Through its name se, the goose-symbol likewise expressed the [pg 399] same meaning as the egg and the first syllable of seta = hidden; perhaps also ne-se-r = flame,

the synonym of khebs = luminary or star (Brugsch). Through its name ak, the goose symbol became the synonym of all ak or ka words. Finally, through its name apt, it became related to the whole series of anagrams of ptah and the synonym of the pair of horns which express ap in hieratic script.

The association of the syllable ap with the bull = uau and ka, is proven by the name Apis given to the living, sacred bull, under which form the supreme divinity was worshipped from earliest times, at or before the building of the pyramids at Memphis. The explanation that, just as sacred bull was merely a living rebus expressing by the sound of its names, the words "the one, the double, the middle of the central two-fold one," or "divine twain," fully explains why, in time, the bull itself came to be chosen, revered and worshipped as the living image of the "hidden god."

The marks of the sacred calf Apis, described by Herodotus, appear to become intelligible, when translated as follows and then analyzed: "It is black (khem or kam) and has a square (ptah) spot of white (hetet) on the forehead (tehen). On the back (of the head) (makha or at) the figure of an eagle = vulture (seta). In the tail (peh?) double (ka) hairs (anem). On the tongue (nes) a beetle (kheper)."

Feeling convinced that Egyptologists could find further phonetic elements and hidden meaning in the above material, it is with diffidence that I point out some of the meaning I am able to discern with the simple aid of "First steps in Egyptian." Besides being the image of Amen-Ra Polaris, the one and divine twain, the black (khem) skin (annu) of the sacred bull appears to contain an allusion to Egypt, known as "khem" and its central capital Annu, besides that to the nocturnal heaven and its shining city. The square ptah of white = hetet (*cf.* hetet, and chut = light) appears to symbolize the quadriform plan of the celestial and terrestrial kingdom and its position on

the head (tep) between the two horns (ap) gains in significance when it is realized that, in astronomical texts, the square (designated above as hetet = white) is as frequently pictured between a pair of horns as the pillar = tet, that both square and pillar appear thus to have expressed the same sound = tet, which signifies eternity. The bird of prey = seta on the bull's back (makha) evidently signified the hidden = seta, centre, m-akh-a, further significance being lent to the syllable akh [pg 400] by the fact that it also means "to support," and that "the support of heaven" was a divine title contained in the hieratic texts. The double hair = anem, ka, appears as another mode of expressing the "hidden" ka = double or ak = centre. The word for tongue (nes) being the reversal of sen = two, the kheper = life, on the tongue, appears as an allusion to dual principles or powers of nature. The giving forth and drawing in of breath by the living Apis bull must doubtlessly have seemed, to the Egyptian priesthood, emblematical of the giving and taking away of breath of life, by the creator, Khepera, over whose emblem, on the tongue of the animal, each breath necessarily passed.

An insight may thus be gained of the method by means of which primitive, naïve picture-writing could have become more ingenious and intricate until, as actually stated in the hymns, the name of the supreme divinity became "hidden from his children in the name Amen" [literally = hidden], and a "myriad of names, how many are they is not known" had been invented by the scribes, to designate the King (Hak), "one among gods, in form one, the lord of eternity, stability and law."

Before making a cursory examination of the following lists of homonyms of the names for bull = ah, uau and ka, I must revert to astronomical pictures and signs and make some statements concerning the hawk-headed human form found represented in the zodiacs in close association with the image of Ursa Major, the bull; (see pl. v, 1, from Denderah). The presence of the hawk = bak in the centre

of the polar region, with the bull ka, assumes significance in connection with the word ak = middle and the name for "the middle of the heavens," cited by Sir Norman Lockyer; *i. e.*, kabal sami, and all of these words are particularly interesting when it is remembered that the Babylonian name for north was akkad, the Akkadian title for Ursa Major was Akanna, while Ursa Minor was named Kakkabu in Babylonia and Assyria. The Arabian kaaba is recalled here.

The inscriptions accompanying the zodiacs published by Brugsch (*op. cit.* I, p. 127) designate this hawk-headed personage, who, in each case, holds either a spear or a plain staff, by the following names, of which I give Brugsch's translation, followed by my own commentary. An = he who turns or winds himself around. In this connection I point out that the name Na, given to the serpent, is the inversion of an. Kher-an = he who fights and turns or [pg 401] winds himself around. As kher is likewise the word for ring or circle (*cf.* Greek kirkos, Latin circus or circulus, Scand. kring), it is evident that the name Kher-an admits of being interpreted as "he who winds or turns around in a ring or circle," kher = the fighter or combatant. At the same time, the word kher likewise signifies ring or circle; moreover ker = night and rek = time. Therefore the name Neb-kher, cited by Brugsch (*op. cit.* I, 176), as one of those given to the god of the city of At-Nebes, besides signifying, as he says, the "lord of strife or fighting," clearly means "the lord of the circle or ring." This is undoubtedly one of the most appropriate of names for the god of the pole star and Ursa Major and is, besides, the Egyptian equivalent for the Hindu "lord of the wheel," the Persian "god of the ring," and the Mexican "lord of the circle and of the night" = Yaual or Yohual-tecuhtli. The other titles of the same god recorded by Brugsch are "the flame or light" = Neser, and "the lord of life" = Neb-ankh.

I merely point out here what I shall discuss more fully later on, that, in the Egyptian An, "he who turns himself

around," we have the counterpart, not only of the Assyrian An-shar (fig. 65, 5) who shoots his darts in all directions, but also of the "North god" of the ancient Mexicans, who, fully armed is held by one foot, by the sign of the North, to the centre of the cross, the symbol of the Four Quarters, and like the Akkadian "lord of heaven," Akanna, is identified with Ursa Major.

I note, moreover, that, whereas the common name for hawk is bak, that employed by Brugsch is hru (*cf.* inversion ur = the Egyptian name for cross symbol) which is sometimes transcribed as hur, her or heru, hor or har = and translated as Horus or Ra Harmachis. An interesting image of the hawk god is found in another inscription in the temple of Denderah containing the group (pl. V, 6) consisting of a single star, the bull and hawk, transcribed by Brugsch as "Hru-Ka" and translated as "the bull (of) Horus" (*op. cit.* I, p. 7). Another interesting case of the combination of the bull and hawk is the hawk with a bull's head also figured by Brugsch, and which is obviously a variant of "hru-ka." A curious instance which seems to contain a reversal of these syllables is the bull, repeated in inverted positions, with the cross-sign = ur, a group which might well have been employed as a rebus expressing the sound ur-ak-ka, a combination which I shall discuss further on.

[pg 402]
The identity of Horus as a form of Polaris is hinted at in the following inscription in the temple at Denderah (pl. v, 10) which Brugsch translates: "Ra Horchuti (= hur-chuti) the shining Horus, the ray of light in the night" ... (*op. cit.* I, p. 16). The "god" is figured in mummy form, holding the sceptre tam (*cf.* mat = justice, truth) and the sign ankh (life), with the head of a hawk = bak or hru (*cf.* ur = four, and head = tep or tepet, also name for "chief"), the head conveying idea of four-fold chieftainship, surmounted by the horns = ap and circle or disk = ra.

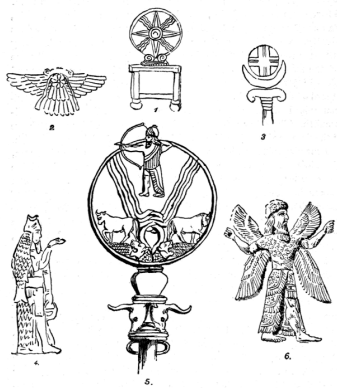

Figure 65.

An extremely suggestive astronomical picture (pl. v, 13) contains [pg 403] the combination of Horus, the An, in the form of the human-headed hawk, with a serpent Na, the boat (uaa, am or makhen) and the circle enclosing a single star, duat (*cf.* ua = one). The complete group thus conveys a wealth of hidden meaning which is perfectly intelligible when interpreted as pole-star symbolism.

The reader is now invited to take a preliminary look at the columns of signs included in figs. 66, 67, 68, some of which will be recognized as primitive pole-star symbols already discussed, and which will respectively be found to contain homonyms of ua = One and uahi = permanent; ak and kabal = centre, ka = double, an = he who turns and ankh = life, etc. Special attention is also drawn to the modes of expressing the syllable am by the homonyms boy or child, boat and tree (fig. 63, 20-22).

Different combinations of identical phonetic elements are found in the following groups which prove to be but different ingenious figures expressing the same sounds, with more or less the same meanings: pl. v, 15, represents the boat, whose phonetic values are given above, with a flower = ankh, the homonym of life, containing the names an and na, from which the uræus = ara, is rising. Later on the deeper symbolism of this and fig. 12, pl. v, will be

further discussed. In the latter, instead of the flower the boat contains the ara and a boy = ah or aah, whose name is the homonym for great, mighty, powerful, etc. Assuming that the boat expressed its particular name uaa = ua = one, we thus have a rendering of the appellation so constantly given to Amen-Ra in the hymns and invocations: "One, great, powerful, mighty god," accompanied by a whole series of secondary meaning and symbolism. In pl. v, 9, the boat containing the bull or cow, is accompanied by stars which reproduce Ursa Major exactly, minus one star, the head of the animal occupying the centre of the four stars forming the inverted square of "the dipper." In this case the boat seems to express its name makhen, incorporating ak, the name for the sacred centre of the sky, which is repeated in the name ka = bull, whose image, like that of the boat, conveys the allusion to ua = one, by their respective double names, aua and uaa.

What appears to me to contain the most convincing proof of the identity of Amen-Ra with Polaris is 11, pl. v, which shows us a boat in which lies a mummy, above which is a row of seven stars under an oval, containing two eyes. The oval ring is evidently the image of Amen-Ra, who united in his person the dual principles [pg 404] of nature symbolized by sun and moon = his "two eyes." The symbolism of the boat and mummy has already been sufficiently discussed to enable the reader to discern its association with the idea of oneness, of stability and centrality. Further light is thrown upon the connection of the two eyes with the sacred centre by pl. v, 14, from the Book of the Dead, where the chosen place of sepulchre for the dead person, mentioned in the text, is the temple pyramid, the apex of which is rendered prominent by being painted black and suggestively occupies a central position between two eyes. After the periods of Greek rule in Egypt, the point of the pyramid must have been associated with the Greek words, akra = hill-top and aku = point, which recurs in the Latin name acacia, by which the thorny tree, originally found in Egypt, is still known. It can readily be seen how this tree would have

been chosen as a symbol of the ak = middle and it is possible that its name may originally have been that also given to the olive tree = bak. The inscription on the famous obelisks erected by queen Hat-shepsut contains a special mention of the point of the obelisk, as being made of precious material: "two great obelisks of hard granite of the south, the point of each is of electrum, the tribute of the best quality of all countries" (Flinders Petrie, History of Egypt, Vol. II, p. 86).

The many variants of the constellation or star termed "the divine triangle" or "the triangle of the god" next claim attention. An extremely interesting variant of this constellation represents a hawk-headed sphinx, next to the triangle (pl. VI, 1); 2-4 represent the common form expressing the name Sopedet. As Brugsch informs us, the above name was changed at a more recent period into Satit (6-8), which he translates as "she who shoots, the archeress" or "she who causes the Nile to rise." In these cases the written name either contains an arrow (6), the pyramid symbol for earth (7), or a seated figure above whose head is a single star (8). A rarer form of representing the same constellation is 9 and 10, the group being transcribed by "Satit Hont Khabsu" which Brugsch translates as "Sothis, the Queen of the ... stars." From the feminine terminations employed in the text it is clear that it is a cow which figures here in the boat, with a single star between its horns and it appears to me to be obvious that we have to deal here with the feminine form of Polaris, with Auset = Isis, closely related to the Assyrian "goddess of battle," Ishtar, the [pg 406] female counterpart of Ausar = Osiris, the Assyrian Anshar, or Ashur, the "god of battle."

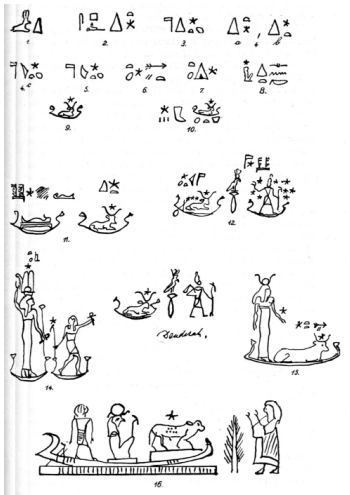

Plate VI.

This view is confirmed by further astronomical pictures published by Brugsch, which appear to me not merely to signify the constellations Orion and Sirius as Brugsch infers, but to be hieroglyphs intended to be understood by the initiated only, representing two or more of the forms under which Amen-Ra was figured. At Edfu (pl. VI, 11) the boat = au, uaa, and the mummy = sah form a fair rebus for Ausar = Osiris, while the boat alongside of it contains the cow, a form under which Isis = Hathor was worshipped in Egypt during centuries. At Denderah (12) there is a cow in one boat = Isis; and a man in another who holds the sceptre tam, emblematic of power, and turns his head around, an evident allusion to the action an = he who turns himself around, or to sah = one who turns away. Between both is the hawk = bak or Hur-chuti = Horus, standing on the sceptre named aut, composed of the lotus flower = ankh. A variant of the same group (13) also symbolizing the "Above, Below and Middle," and from Denderah, represents Isis only in the celestial boat and Osiris standing (on earth) holding, beside the tam, the whip = nekhe khu, emblematic of rule. In 14, a female figure stands in the boat under the written name Auset = Isis and bears in her hand the ankh sign and

the lotus flower = ankh sceptre. In the second boat the figure of a boy (ahi) turning (an or sah) his head, holds up the ankh. In 15, we seem to have an evidence of the ascendancy of Isis worship, for the boat contains not only the cow, under the name satit = she who shoots, or the archeress, but also the standing figure of the goddess, crowned by the disk or circle between two horns.

A striking proof that the knowledge of the true, hidden meaning of the signs just discussed was regarded by those who possessed it as an evidence of an advanced stage of initiation in the mysteries of the priesthood, is furnished by the following text, which accompanies pl. VI, 16:

In the Book of the Dead (Leyden, Papyrus, p. 16), in a chapter entitled: "Chapter of the knowledge of the eastern spirits, ro en rex biu abti," the dead person utters the following words: "I know that eastern mountainous region of the heaven whose south is at the sea Kharo and the north at the river of Ro, at the place where the day-god Ra drives around amidst storm-winds. I am a welcome comrade in the boat and I row without tiring in the bark [pg 407] of Ra. I know that tree of emerald green brandies amongst which Ra shows himself when he goes over the layer of clouds of the god Su. I know that gate out of which Ra issues. I know the meadow of alo, whose wall is of iron.... *I know the eastern spirits, namely the god Hur-Chuti, the calf next to this god and the god of the morning*," the original text of the latter sentence being: "au-a-rekh-ku-a biu abti Hur-chuti pu behsu kher nutar pen nutar duaut pu" (Brugsch, *op. cit.*, I, p. 72).

The evasion and caution with which the speaker alludes to his knowledge of the meaning of the signs, without betraying the latter, sufficiently indicate the obligation of absolute secrecy which bound him, and it may be inferred that several of the words he employed were intended to be misleading to an outsider just as the astronomical pictures, exposed to public view, were purposely made to seem to relate to the more familiar sun, moon and

constellations, the mind being thus led away from the hidden but true star-god = Polaris. The circumstance that, on the body of the young bull in the boat, there are seven dots and above it a single star and that the hawk-headed seated deity behind it is crowned by the serpent circle or disk of Amen-Ra, sufficiently enlightens us as to the true, veiled significance which represents different forms of the "hidden god," of the group. A careful analysis of this and of the astronomical images suffices, however, to disclose the limited scope of the meaning of such groups, each one being but a different rebus containing the same phonetic elements. Let us now briefly indicate what appear to have been the essential components which all images contain and a few of the myriad of ways by which they were expressed.

Uahi = permanent, and Ua = One. Represented by

Fig. 66. 1. An arrow = au (*cf.* abau = to fight), an arm = a, and the numerical one = ua.

2. The cow = ah, aua, the latter name incorporating the adjective a = mighty, powerful, etc.

3. The thigh = uart.

4. The boat = uaa.

5. The numeral five = tuau.

6. The throne, seat or place = auset, which constitutes the name Auset = Isis, the consort of Ausar = Osiris.

[pg 408]
7. The bowl = au.

8 and 9. Two forms of sceptre or bent staff = au, uat, *also* aam.

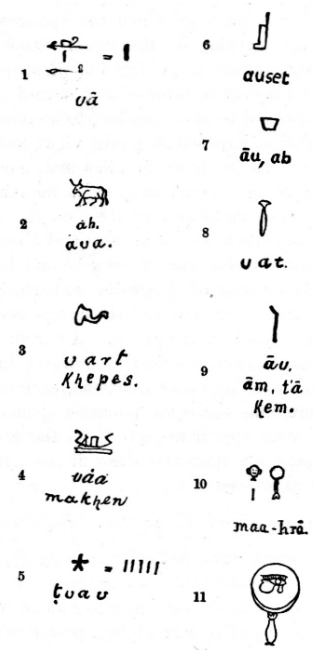

Figure 66.

Besides these signs, well known as sacred symbols, we find that the following names also contain the sacred title Ua: uatet = greenstone, emerald, aut = quadrupeds, au = heir, also dog, maau = rays of light, mau = lion, also cat. The reason why certain quadrupeds, and particularly the cow, lion, and the cat, should have become sacred animals in Egypt, seems to be satisfactorily explained by the fact that each constituted a rebus and could therefore be employed as an "image" of the One god. It is obvious that locality would necessarily influence the choice of the [pg 409] sacred animal and that while one city might adopt the cow, another would be obliged to adopt the cat, etc, as the living rebus. The adoption of "the heir," or

first-born of the sacramental union of king and queen, as the living image of the deity, throws an unexpected light on the reason why members of the royal line were treated with divine honors. While persons, animals and objects whose names contained the divine Ua = one, would thus be chosen, others containing the word Ra = god, would also be adopted.

Ra = god.

Of these I have already pointed out the uræus = ara, the eye = ari, face = hra and egg = ar, also se or sa and suht. To these may also be added the date palm or dates = ben-ra; grain = nepra; the vine = aarer and grapes = aarer, each of which is to be found associated with sacred symbolism.

The veneration accorded in different localities to the pig = re-ra and the horse, may thus be accounted for, especially as the name for the latter, het-ra, consists of het = light or fair, and ra = god, and the horse is actually found associated with the light-gods of antiquity and with so-called solar symbols and the swastika.

Food for reflection is afforded by the Egyptian name for mirror, which literally signifies to see, or the seer = maa, of the face = hra, but which furnishes, as a rebus, the word maat = law, which is usually expressed by the feather = mat, connected with hra = *i. e.* ra = god (fig. 66, 10). The employment of the mirror as an image of the god of law would thus naturally have been suggested by its name. The presence of the eye = ari (*cf.* ra) in the centre of a mirror which is being worshipped, also suggests that in ancient Egypt the mirror was employed in the temple to hold the reflection of Polaris = Amen-Ra, "the untiring watcher, the lord of eternity and the maker of law" (see fig. 66, 11). It is obvious that the habitual employment, by the astronomer priests, of a mirror so placed in the sanctuary as to catch the reflection of the pole-star through an open doorway, would lead to the discovery of the movements of the sun and the positions it assumes during the year. The flashing of a beam of

sunlight once a year, at the period of the summer solstice, upon the mirror which constantly reflected the pole-star, would naturally suggest the idea of "the union of the day-sun with the night-sun" and seem particularly impressive as it was at this period that the Nile began to rise. In dealing [pg 410] with the religious festivals held at this period more will be said on this subject.

The word maat = law, besides being expressed by the feather = mat, could also have been indicated to those initiated in the mysteries of hieratic rebus-writing, by the lion = ma hes; the antelope = ma-het, which also contains the sacred attribute light = het, the synonym of khu, thus expresses the idea of the "light of the law." The musical instrument named mat may also have originally been, like the tam sceptre, a symbol of lawful power and conveyed an allusion to meht or maht = north. To this series the word am should be added, signifying child, tree and boat, each of which has already been treated of in connection with pole-star symbolism and Amen-Ra (fig. 63, 20-22).

Duality = ka = double; and the Middle = ak.

The name for bull = ka (fig. 67, 1) incorporates, as has already been shown, not only duality and middle, but also, through its other names, the idea of oneness and of power. This appears to explain clearly why the bull was chosen as the image or rebus of Polaris and Ursa Major, which appear to have been regarded as a single combination of stars. The fact that in the hymns Amen-Ra is addressed as "the bull," constitutes a convincing corroboration of the identification of the "hidden god" with Polaris. A line of connection seems, moreover, to exist between the Egyptian kabal sami = the middle of heaven, the image of a bull in the centre of the zodiacs, and the bull of Assyria, under which image Baal was worshipped.

Hieratic signs, expressing the word for middle and double appear to have been: the mummy which, although named sah or tut, also signified khat = corpse (2) and conveyed

an allusion to mit = death, the homonym of met = north.

A certain form of fish expressed the syllable kha (3). A cone-shaped object named khaker appears to have served as a rebus for the middle and double as well as night = ker and time = rek (4). In pl. VII, 12, the khaker figures behind the seated image of a deity with the head of a ram = ser or sar, holding the ankh in his hand, the whole forming a rebus for Ansar, and containing much meaning besides.

Kha-ut (fig. 67, 5) is the name for the sacrificial offering laid on [pg 411] the utu = altar, which is shaped like the tau and symbolizes the above and below by its perpendicular and horizontal lines. In the centre of this is the bread = ta (the homonym of ta = earth, *cf.* neb-at = fire), which is remarkable on account of its division into four parts analogous to that of nut = city, a feature which justifies the inference that the word for cake = sen-nu made with honey = bat or net, is intended to be expressed here. A jar stands at each side of the cake, which is placed on edge so as to exhibit the sacred design upon it. It is significant that, if the jars contained wine = arp, milk = art, the name of the liquid constituted an anagram of ra, if perfume = anta was present, this furnished the syllables an and ta = earth. It is, of course, impossible to surmise how far such resemblances of sounds influenced the choice of sacred offerings.

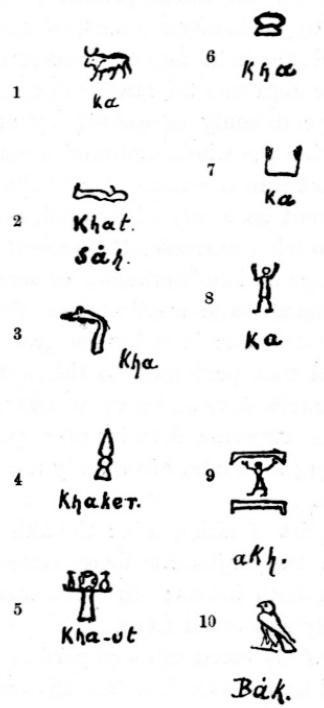

Figure 67.

[pg 412]
The kha (fig. 67, 6) = crown is particularly interesting as Amen-Ra is addressed as “crowned form,” the lord of the ureret crown, ... beautiful of tiara, exalted of the white crown ... on whose brow the double crown of Upper and Lower Egypt is established. It appears, therefore, evident that the crown = kha was but another mode of expressing ka = double. At the same time it likewise conveyed the idea of ak = the centre and the act of crowning a sovereign appears as vested with deep symbolical meaning when it is realized that, according to the primitive modes of thought I have been tracing, by enclosing the head of the king in a circlet he was constituted the hak, regent or central chief, the living image of Ra, whose sign was the star or dot in the circle or ring.

Ka (duality) is commonly expressed by an uplifted pair of arms; a variant being the whole figure of a man with raised arms (7 and 8). The fact that the name for phallus was also ka, explains its employment as a sacred symbol, recorded by Herodotus, which proves to what extremes the ancient rebus-writers went in their naïve invention and multiplication of secret signs and modes of expressing the names and attributes of their "hidden god." The hatred and disgust conceived by the great reformer Amenophis IV, against all that pertained to the cult of Amen-Ra, his destruction of all images devised by the priesthood and adoption of a pure image of the supreme divinity of a plain disk or circle, with rays terminating in hands, are readily understood in connection with the above.

Returning to our list of akh words: the akh or centre is figured by a man between two signs for heaven = pet, supporting the upper heaven with both hands; the idea ka = double or dual, being simultaneously expressed (9).

The hawk = bak (10) constitutes so perfect a rebus or anagram of middle = ak and kabal, as well as for khab = star, that the reason why the hawk was chosen as an image or form of Amen-Ra is as reasonably accounted for as the choice of the bull. Before supporting this assertion by a series of convincing proofs, the following list must be studied:

An = he who turns himself around (i. e. who performs a circuit = the circuiteer) and ankh = life.

In the "First steps in Egyptian" I find the word "an" expressed by (fig. 68, 1) a man in the act of turning around, resembling the position [pg 413] of the male deity in the boat, already discussed and represented in the astronomical texts (fig. 68, 2) by an eye, the form of which differs from that of the eye = ari; (3) by a fish, also different in form from the fish = kha, and particularly interesting if compared to the fish khepanen, figured in the kheper series, which constitutes a rebus combining

the titles khepera = creator and an = the circuiteer; (4) by a stone = aner, also by hair = anem; (5) by two arms spread outwards, recalling the position of the front legs of quadrupeds; (6) by a spear whose shaft is inserted in a double stand; which sign recurs in the name of the city Annu, expressed by the an = spear, the vase = nu and the nut determinative for city or capital (7). It is extremely interesting to compare, at this point, the Greek polus = a pole or axis, and polis = city or capital, and to realize that, in Egypt and Greece alike, the names for capital are associated with the idea of centrifugal power and rule.

The signification of all the above “an” signs becomes intensified when it is realized that they conveyed also the first two letters of the word ankh = life, which was usually expressed by the familiar symbol expressing the union of the dualities of nature (8).

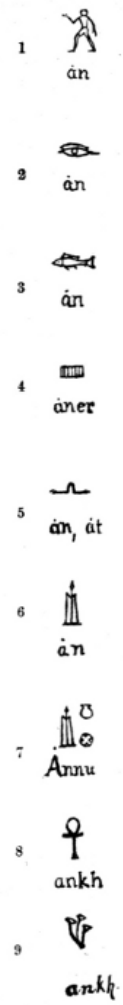

Figure 68.

Amongst the many surprises received during the course of this investigation, few have given me as much satisfaction and light, as the observation of the fact that the Egyptian name for flower, ankh (9), was the same as that for “life.” The full significance of the lotus blossom as a symbol became clear to me, and my attention having been called by a friend to Mr. William H. Goodyear's admirable work “The Grammar of the Lotus,” London, 1891, I was able to

obtain from it the series of Egyptian symbols which I now present and shall proceed to interpret according to the method set forth in the preceding pages. The interesting observation was by Mr. Goodyear that “the ankh was the exact counterpart [pg 414] of the lotus as regards solar association” and in his work, on pl. LXV and elsewhere, this close observer publishes several instances illustrating this view. Of these I reproduce but two, which suffice, feeling convinced that Mr. Goodyear will be as interested as I was to hear that the ankh and lotus were homonyms of ankh = life. This fact of itself fully explains why the lotus flower was employed by the ancient Egyptians, as Mr. Goodyear states, as the “symbol of life, immortality and of renaissance and resurrection and of fecundity.”

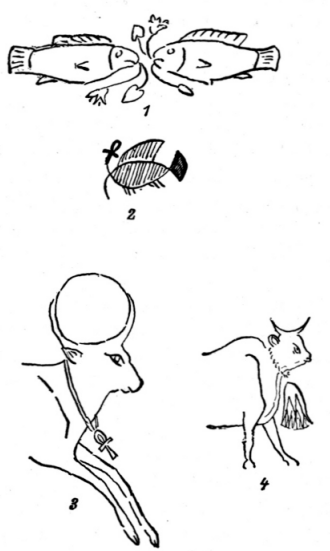

Figure 69.

In fig. 69, 1, two (ka) fishes (khepanen or an) hold the lotus, ankh, and thus constitute a sacred rebus, the profound meaning of which can be surmised by studying

the preceding pages. In 2, one (ua) fish holds the ankh instead of the lotus. Both signs obviously express precisely the same meaning with the difference that, in one case duality is expressed by two fishes, and in the other by the ankh symbol which emblematizes the union of nature's dualities.

Fig. 69, 3, shows the bull, carrying the circle of Ra between its [pg 415] horns and wearing the ankh symbol hanging from its neck. The lotus replaces this in 4, where the circle is missing and one bull (ua en ka) expresses the mystic sacred words ua = One and ka = double or "the divine Twain." It is evident that it is only when it is assumed that pole-star worship constituted the basis of the natural religion of the ancient Egyptians that their sacred symbols become intelligible.

Though a novice in Egyptology and with extremely limited works of reference at hand, which facts will, I trust, excuse faults and omissions, I perceive so much that is clear and simple in the following series of Egyptian sacred symbols, culled from Mr. Goodyear's work, that I am tempted to submit my interpretation of their meaning, thereby putting my view and method to a crucial test.

In pl. VII, 2, we have an interesting group uniting the boat, the meaning of which has been discussed, a seated figure on a square pedestal, a column, the upper portion of which is separate and simulates the bowl or cup = au, the dot and circle, the sign of Amen-Ra, and a single flower. As a rebus, some of the words expressed are am, uaa or makhen = boat, tet = column, Ra = dot and circle, also seated figure, determinative of god = Ra, and ua en ankh = one flower. While the rebus supplies the words ua = one, uahi = permanent, ra = god, an = the circuiteer, ankh = life, tet = eternal, it is only when identified as pole-star symbolism that the group becomes comprehensible.

Pointing out that, in the above, we have a clear case of the flower in association with the Ra sign and other symbols which have been discussed as pole-star signs, let

us next examine 1, 3, 4, 6 and 8, in each of which one blossom = ua en ankh, constitutes the emblem for the sacred Middle, and openly conveys the idea of the verb an, to perform a circuit and ankh = life.

The fact that, in 6, the flower consists of five petals, on four of which the genii of the four quarters stand, sufficiently proves that the flower, like the five-dot group, constituted a symbol of the four quarters and centre, the latter being figured as a pyramid-shaped petal. Interesting variants of this group are 5, with the four genii standing on seven of the nine petals of the flower, which is placed between two buds, the idea of centrality being thus conveyed; and 7 where an inverted triangle replaces the flower and reveals some of the deeper meaning attached to this symbol. In 1 and 3 the flower is surmounted by the hawk crowned with [pg 417] the Ra sign which, as has already been stated, symbolizes circuition around a central point of fixity. The names for hawk = hak (*cf.* ak and cabal = middle, also hak = king) and her or hur (*cf.* hru = upper, the above, and ur = four = Horus) reveal its appropriate use as rebus and symbol of the central "sun" god. In 8, instead of the Ra sign, the hawk wears the peculiar double diadem with a circle at its base, which is the particular attribute of the images of the ram-headed god Amon who is represented in no. 12, holding the ankh sign and accompanied by the kheper sign, composed of a circle, surmounted by a cone and supported by a pedestal. It is well known that the ram = ser, sart or sar, was the form under which the supreme divinity was worshipped at Thebes, the real metropolis of the whole land of Egypt, during many centuries.[113] The name Amon, also given as Ammon, Amoun, Hammon, resembles Amen closely enough to justify the identification of Amon as a form of Amen-Ra, the concealed god.

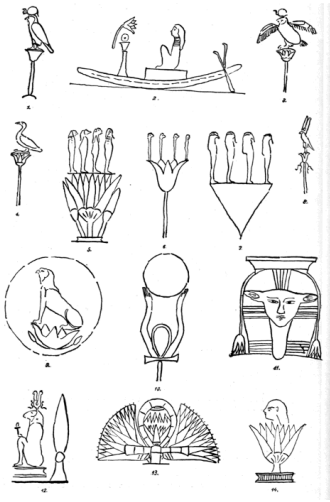

Plate VII.

In this connection it is noteworthy that the ram = sar or sart conveys the same sound as the goose = sar or sa, the employment of which, as a pole-star symbol, will be discussed further on, and that the king of Egypt was termed “the living ram (of Amon) on earth” and “the engendering ram.” From Mr. J. P. Mahaffy we learn that, under the Ptolemaic rule, “it seems likely that among the strict prescriptions for all the solemn acts of the king, it was directed that he should assume the insignia of the god Amon, his ram's horns, fleece, etc, when visiting the queen” (History of Egypt, London, 1899).

Under the Ptolemaic dynasty, the identification of Amon with Amen-Ra receives support from the magnificent monumental votive ram, preserved at the Berlin Museum, which was dedicated by king Amenophis III, which bears on his head, the disk with the uræus serpent, the familiar sign of the “hidden god.”[114]

[pg 418]
While the diadem of Amen-Ra sufficiently identifies the hawk on the lotus as a form of the “hidden god,” the following extracts from Mr. Goodyear's work will be

found to confirm this and throw further light on the subject. “The hawk represented Ra, Horus and all solar gods....” A text at Denderah says: “The sun which was from the beginning rises (*i. e.* comes forth, appears, see Brugsch for meaning of Egyptian equivalent) like a hawk from the midst of its lotus bud....” At Denderah the king makes offering of the lotus to the sun-god Horus with the words: “I offer thee the flower which was in the beginning the glorious lily of the great water....” In the boat of the dead the soul says, “I am a pure lotus (*i. e.* life) issue of the field of the sun.”

The circumstance that, in 4, the flower is surmounted by a goose, one name for which being aq = ak, shows that, like the hawk, bak, it may well have served as a rebus for ak = the middle. An instance of the direct association of the sacred goose with the four quarters is given in the bas-relief at Medinet-Abu, described by Brugsch (*op. cit.* II, p. 297). This represents “Ramses III ... offering sacrifice to the god ‘Khimti,’ *i. e.* Pan of Panopolis, the Theban form of which was Amon Generator.... A white bull (the symbol of Pan) and four geese, which are represented as flying towards the cardinal points, constitute the sacrifice.”

The striking association of the goose with the bull = Apis, the astronomical symbolism of which has been shown, gains in significance when it is realized that another name for goose is apt and that this also constitutes an anagram of pta = ptah, one form of Amen-Ra. It is a curious fact that the third name for goose, se or sa, combined with ankh = flower, as in pl. VII, 4, furnishes the word ankh-sa, which recalls the word An-sah obtained by the mummy and serpent rebus and the name of the god of Assyria, Anshar.

In connection with the above Egyptian rebus, expressing the syllables ankh and sa, it surprised me, to find that the Sanscrit name for goose is hangsa, while in ancient Hindu it is hamsa and in modern Hindu hanassa. It is well

known that in Hindu mythology the goose was “the bird of Brahma,” the “supreme one who alone exists really and absolutely,” that the birth of Brahma from the lotus is frequently represented in Hindu religious art, and that the lotus is the attribute of the “sun-god” Surya, termed the “lord of the lotus, father, friend and king.” What is more, the goose, [pg 419] associated with “solar” symbolism, *i. e.* with the circle and central dot, with the swastika, four-petalled flower and the wheel, occurs on the oldest monuments of Greek art; on the prehistoric bronzes and pottery of Italy (where the sacred geese were kept on the Capitoline at Rome); on the bronzes of Hallstatt, of ancient Gaul and of prehistoric Sweden. Pointing out that we thus obtain a whole chain of associations which link the syllables am and an to deities and pole-star symbolism, I next present, for reference, the names for the bird given in Webster's dictionary.

Sanscrit, hangsa; Latin, anser, for hanser; German, gans (in Germany, according to Pliny, the small, white geese were called ganzoe al. gantoe lib. x, 22); Greek, khen; Danish, gaas; Swedish, gos; Welsh, gwydd; Anglo-Saxon, gos; Irish, geadh; Icelandic, gas; Slavonic, gusj and gonsj. Noting that in the Sanscrit, Latin, Greek and German alike, the syllable an or en is present in the name for goose, I return to the Egyptian symbols which express the words an and ankh, and, bearing the “birth of Brahma from a lotus” in mind, refer again to the Egyptian title Neb-ankh, “lord of life,” which, as I point out, also signified “the lord of the lotus flower.” Let us now briefly examine some Egyptian texts relating to pl. v, 12 and 15, which represent the boat (am and its synonyms) and the flower = ankh, associated with the boy and the serpent.

In an astronomical text from Edfu, published by Brugsch, New Year's day is mentioned in connection with the “coming forth of the great lotus blossom in the form of a bud in its symbolical interpretation as the god ahi (literally, boy).... The count of his rulership begins from the first day of his rising or birth....” In another text it is

said: “New Year's day, the sun (Ra) comes forth from a lotus flower in the great sea,” and there are numerous allusions in other inscriptions to “the lotus blossom in the great waters, from which the sun-child arises in radiance towards heaven.” The text accompanying (pl. v, 15), where a serpent rises from the lotus in the boat, states “the sun, uniter of the world, in Tentyra” = the New Year.

In another inscription it is said: “thou risest like the sacred serpent, as a living spirit, in thy glorious form in the bark of the sunrise;” and this passage forms an interesting parallel to that already cited where the sun is said to rise “like a hawk from the midst of its lotus bud.” Pl. vii, 14, exhibits a nine-petalled lotus [pg 420] growing from a pedestal and a head issuing from it. As the name for head tep (also tap or tpa, and apt *cf.* pta), signifies chief, or beginning, we must accept this as another variant of the previous signs.

Deferring the discussion of the so-called “birth” and cult of the diurnal sun, as one form of Amen-Ra, let us now rapidly survey the following figures copied from Mr. Goodyear's work.

Pl. vii, 9. A circle encloses a group consisting of the five-petalled lotus between two buds and the hawk-headed sphinx, which has already been met with in the astronomical texts and, according to Egyptologists, represents Horus, the sun, “who lights the world with two eyes” and is addressed as “a powerful lion,” “the master of double force.”[115] I need scarcely recall here that the combination of a bird and quadruped would naturally symbolize air and earth, the Above and Below and that the hawk-headed sphinx, seated on four petals, clearly expresses the idea of the “lord of Heaven and Earth, the father and mother of all, the ruler of the Four Quarters and lord of the circle.”

Pl. vii, 10. The plain circle or disk, supported by two uplifted arms = ka, arising from (akh) the ankh sign, is another ingenious mode of expressing the idea of the

Middle, the circle, duality and life.

No. 13 constitutes as charming and ingenious a play upon the word ankh = life as can be imagined, and a close examination reveals its subtle, hidden and deep significance. It exhibits, in the first case, the ankh sign combined with the flower = ankh, which might, at a first glance, be taken as an example of purely decorative art. But the ever-present thought of the duality of nature manifests itself in the arrangement of the two flowers towards each other and enclosed in the open ring of the ankh sign, and it is evident that the artist took pains to draw the central petal of the lower blossom in the form of a triangle, below which an oblong square and a square may be distinguished.

After the foregoing attempt to show how, even with my rudimentary and limited knowledge of their language, the sacred symbols of the Egyptians become intelligible and full of significance [pg 421] when studied as examples of pole-star symbolism and primitive rebus writing, I draw attention to the limited number of syllables employed in the astronomical texts; to the ingenuity displayed in expressing the same sound over and over again by means of different words possessing the same sound and to the fact I shall hereafter set forth, that the syllables and rebus-figures employed are found indissolubly linked to pole-star and sacred symbolism. Referring a demonstration of these conclusions to the end of the present investigation, I shall next discuss the forms which the cult of the dualities of nature seemingly assumed in ancient Egypt.

As an introduction I present in fig. 70, the copy of the upper portion of a funeral stela preserved at Bûlâk and published by Perrot and Chipiez (Ægypten, Leipzig, 1884). It exhibits the head or face of Hathor surmounting the tet column and supporting, in turn, the image of a small house or temple, at each side of which is a peculiar projection recalling the circinate line issuing from the red

crown of lower Egypt (see fig. 70, 9, 10). In another Hathor stela, figured in the same work (pp. 510 and 780), the same characteristic circinate projections recur. The image of the house, always represented with a single doorway, is obviously a rebus of the name Hathor, explained by Egyptologists as Het-heru, literally "the house of Horus." "Athor or Hathor of Thebes, identified with Nut, the sky ... was the female power of nature and is often represented under the form of a cow, ... as a woman with a cow's head, with horns and the disk, or wearing a head-dress in the shape of a vulture and above it the disk and horns." In the familiar representation of the mask of Hathor on columns, the association with the cow is conveyed by large cow's ears = setem, projecting at each side of the face = hra.

A feature generally present in the miniature doorway of the house, is a single erect head of a uræus, bearing the disk or circle on its head and usually exhibiting a distinctly cross-shaped mark on its neck. The latter peculiarity is clearly shown in fig. 70, 1, which exhibits moreover a seated divinity at each side of the doorway, each bearing the throne or seat (auset) on its head, and the ankh sign on its knee. Close examination reveals that one of these deities is Ausar = Osiris, whose name is generally written by means of the throne = auset, and the eye = ari, with or without the determinative for god, *i. e.*, the seated figure (fig. 70, 1 *a* and 1 *b*). Opposite to Osiris is Auset = Isis, whose name is usually written as in [pg 422] fig. 70, 1 *c*, where the auset, the egg = se, and the seated image of a goddess bearing a bowl = neb, on her head, may be distinguished.

Figure 70.

An idea of the import of fig. 70, 1, seems gained when it is remembered that in Egyptian the word house = pi, pir or per, was [pg 423] associated with the title of ruler, the name Pharaoh being derived from per = āa = great house. What is more, the word house = pir or pi, is used in astronomical texts, like the Arabian beth, in relation to stars, it being said of a star that "it ever comes forth from its house" = appears (Brugsch).

The permanent image of the disk and serpent, a form of the Ra sign, in the doorway of the sculptured house, would thus convey the idea of the eternal presence of Amen-Ra, the pole-star god. The accentuation of the cross lines on the neck of the ara indicates, moreover, the intentional allusion to four-fold and two-fold force, the

latter being expressed by the eyes of the serpent. The door = ptah, which is open, expresses the name Ptah = the Opener, well known as that of the "father of the gods" and a form of Amen-Ra.

The positions assigned to Osiris and Isis, at either side of the "hidden god," sufficiently shows that they were intended to represent separate incorporations of the male and female principles which were united in Amen-Ra, the "divine Twain." The association of both deities with the throne, the eternal seat of repose, identifies both alike with Polaris. A monument in the Berlin Museum (no. 261) which was found in the temple of Isis at Ben-naga, in Nubia, and was a votive offering made by the Ethiopian king Netek-Amen and his consort Amen-Tari, contains the following formula, translated by Lepsius, which associates Isis with eternal enthronement. "Thou remainest, thou remainest, on thy great throne, O Isis, queen of Au-ker, like the sun (Ra) that lives in the horizon ... and thou lettest thy son Netek-Amen flourish on his throne...."

The fact I am about to demonstrate, that the king and queen of Egypt were the respective, "the living images" of Osiris and Isis, proves that, as in ancient Peru and China, the sovereigns, who were at the same time high priest and priestess, were considered as the sacred embodiments of the dual principles of nature. As elsewhere also, a chain of associations became attached to each of the dualities; but in Egypt, as may be clearly discerned, during the lapse of centuries great transformations of thought took place and alternately the male and female elements seem to have been associated with the cults of heaven and earth, light and darkness, sun or moon, morning or evening stars, the southeast and the northwest.

[pg 424]
In the sacred writings the sun is usually termed "the right eye" and the moon "the left eye" of Ra (*cf.* hra = the (divine) face). Brugsch points out that, in certain

inscriptions at Denderah translated by Mariette, “the Sothis star of Hathor-Isis is designated as ‘the right eye of Ra’ while the sun is termed the left eye.”

Brugsch states, moreover, that, according to Sextus Empiricus, “the Egyptians compared the king to the ‘right eye’ or the sun; while the queen was compared to the ‘left eye’ or the moon.” The two eyes, often with the designation of “right” or “left,” constitute a favorite decoration on funeral stelæ. In some instances the image of the solar disk, with one wing and one serpent only, is figured as a substitute for the right eye (*op. cit.* II, 436, see fig. 62, 6). The established fact that the eyes of Ra were the equivalents of the uræi usually accompanying the circle of Ra, the so-called “solar disk,” is further explained by the following data.

It is well known that the two uræi on the royal diadem denote sovereignty over Upper and Lower Egypt. In the bas-relief published by Brugsch, the circle or Ra-sign is represented with two uræi, which respectively wear the crowns of Upper and Lower Egypt (fig. 70, 7). The crowned uræi recur in the emblems of Upper and Lower Egypt published by Mr. Goodyear, the first accompanied by the lotus flower and the second by what Egyptologists usually identify as the papyrus, but which appears to be the ripened pod of the lotus (fig. 70, 9 and 10). While the two uræi thus emblematized the two divisions of the land of Egypt they are found as distinctly associated with Osiris and Isis, and their living images the king and queen, or the high priest and high priestess of Amen-Ra. The Berlin Museum contains several representations of Isis under the form of a serpent with a woman's head (see official catalogue, nos. 7740, 870 and 2529). Osiris is also represented as a serpent with the head of a bearded man.

A small shrine in the form of a temple, and decorated with royal serpents, is preserved at the Berlin Museum (catalogue no. 8164) and contains the effigies of two uræi, one of which, to the left of the spectator, exhibits

the head of Isis, the second, to the right, the features of Osiris. Between them stands the vase or bowl which was a constant feature of Isis cult.

In connection with this monument it is interesting to examine an inscription published by Brugsch (I, p. 108) in which occur two [pg 425] serpents who are pouring liquid into a bowl placed between them and the divided halves of the sky-sign (fig. 70, 8). The text connects this with the New Year festival when the Nile began to rise "from its two sources" and the "union of heaven and earth" took place, which will be discussed later. The following temporary list briefly presents a summary of the preceding data which is rendered more complete by the addition of the signs and emblems of the festivals, when the "conjunction of sun and moon took place," figured by the picture of two persons united by their respective right and left hands (fig. 70, 5) or by the tet column placed between two horns (fig. 70, 4). As may be seen by numerous examples in Brugsch (vol. II), the great Sed festival is figured by the image of the small sanctuary which existed on the flat roof of the great temple at Denderah, and resembled an open pavilion with four columns which is usually represented as containing two seats placed back to back (fig. 70, 2, 3). A small picture in Mr. Wallis Budge's Nile exhibits the king and queen occupying such a double throne, respectively, wearing the insignia and crowns of Osiris and Isis and holding their sceptres, as in the representations of the ceremony of laying the foundation of a temple, in their right and left hands (fig. 70, 6). The résumé of the preceding material produces the following list:

Right eye of Ra: Left eye of Ra.
Sun: Moon.
King: Queen.
Osiris: Isis.
High priest: High priestess.
Right hand sceptre: Left hand sceptre.
North: South.

Red crown: White crown.

The following data, gleaned from the valuable works of Prof. A. H. Sayce and the serial History of Egypt, written by Prof. Flinders Petrie, J. P. Mahaffy and J. G. Milne, furnish strong indications that, in the remotest past, the two divisions of the land of Egypt were respectively governed by a male and female sovereign; a proof that, before the time of Menes, the ancient empire had become disintegrated, and undergone a long period of intense strife and warfare. We learn from Professor Sayce of the probability that "the city of Nek-hen was once the capital of the south and that the vulture, the symbol of the south, was also the emblem [pg 426] of Nekheb, the goddess of the great fortress, the ruins of which lie opposite to Nekhen on the eastern bank of the Nile" (Sayce, *op. cit.* pp. 152, 191).

While the capital and the emblem of southern or Upper Egypt are thus directly associated with a "goddess," further data show us that the ancient queens of Egypt were termed "god-women or goddesses." When the New Empire was founded (1600-1100 B.C.) with its capital at Thebes, King Ahmes assumed the sovereignty of the whole of Egypt, but seems to have shared supreme authority with his consort Ah-mes-nefretere = divine- or god-woman, also termed "the high priestess of Amen." From the honors accorded to her and to her son Amen-hetep or Amenophis I, it must indeed be inferred that she possessed some inherited sovereign right to one of the ancient divisions of the empire.

During the period of the 26th dynasty, of Saïs, we find Upper Egypt governed by a "god-woman," Shep-en-upet, who remained in power, even after the land had been conquered by Psammetichus I. The latter obtained, however, that his daughter Nitocris was adopted as the successor to the "divine-woman" ruler of Thebes, and she in turn adopted the daughter of Psammetichus II (B.C. 594-589), whose name was Anches-nefer-eb-re. A tablet

from the temple of Karnak, preserved at the Berlin Museum (catalogue no. 2112) represents this female sovereign of Thebes accompanied by her prime minister, and standing in the presence of the gods Amen and Chon.

Another remarkable monument at the Berlin Museum (no. 7972) figures the "god-woman" Shep-en-upet, under the form of a sphinx holding a vase, and records that she had inherited the sovereignty of Thebes from her aunt, the consort of an Ethiopian king. An extremely interesting proof that the beard, *per se*, constituted an emblem of sovereignty, is furnished by a beautiful portrait statue of the "divine woman," Hat-shepset (Berlin Museum, no. 2299). She is figured as a sphinx and wears a beard suspended from her head-dress.[116] The serpent decorates her diadem. On other monuments this remarkable queen, who built the temple of Der-el-Bahari, is figured with the crown of Upper Egypt (*cf.* no. 2279, Berlin Museum). By good fortune the personal gold ornaments of a [pg 427] "divine woman," an Ethiopian princess, were discovered by Ferlini in the pyramid of Begerauie, enclosed in a plain bronze vase. These precious objects are now exhibited in the Berlin Museum, where I have examined them and noted with interest that the central ornament of two finely worked, broad gold bracelets, is a female figure with the royal diadem and four outstretched arms, to which wings are attached. This furnishes us with an instance of a queen being represented with four wings, in exactly the same manner as the Assyrian king Sargon, on the seal from the time of Sennacherib (fig. 65, 6), namely, as a "ruler of the four quarters," which indicates that she held the position of a "central ruler." As might be expected in the case of a queen who personified Isis, frequently represented under the form of a "woman-serpent," the uræus is a favorite motif on other gold ornaments belonging to the Ethiopian queen.

Certain passages in Prof. Flinders Petrie's History of Egypt afford a curious insight into the prerogatives of Egyptian queens as far back as about B.C. 2684. The consort of

Usertesen II, the fourth king of the twelfth dynasty was named Nefert,of whom a grey granite statue is preserved at the Ghizeh Museum and represents her as seated on a throne. On this are the titles “The hereditary princess, the great favorite, the greatly praised, the beloved consort of the king, *the ruler of all women*, the king's daughter of his body, Nefert.” Prof. Flinders Petrie adds: “The title ruler or princess of all women is peculiar, and suggests that the queen had some prerogatives of government as regards the female half of the population.” The title in question reappears four centuries later in connection with Nubkhas, the queen of Sebek = Emsaup, of the 13th dynasty and her stele in the Louvre entitles her the “great heiress, the greatly favored, *the ruler of all women*, the great royal wife, united to the crown Nub-kha-s” (*op. cit.*, vol. I, pp. 175 and 225).

Between B.C. 1423-1414 queen Mutemua-arat appears as “the goddess queen” and “great royal wife” (Flinders Petrie *op. cit.*, II, p. 174). The consort of Amenhotep III (B.C. 1414-1379) the celebrated Tyi, the daughter of Yuaa and Thuaa, is entitled “princess of both lands,” and “chief heiress, princess of all lands.” Her successor Nefertiti is called “princess of south and north, lady of both lands,” which titles, as Prof. Flinders Petrie comments, “like the titles of Tyi, imply a hereditary right to [pg 428] rule Egypt.” They undoubtedly place her on a footing of equality with the king, which is, however, comprehensible when it is explained that she was the ruler of all women, while he was the ruler of all men. The position of the Egyptian queen would thus prove to have been analogous to that of the ancient Mexican Quilaztli (see pp. 61-67).

The analogy is all the more striking when it is realized that the titles of the Mexican chieftainess were: “the Woman warrior, the Woman of the Underworld or Below, the Woman serpent or female twin and the Eagle woman,” while the emblem of the Egyptian goddess-queen of the south was the vulture and she was the

personification of Isis, represented under the form of a serpent, the twin of the male serpent, Osiris.

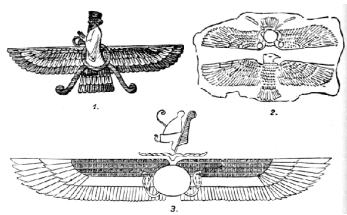

Figure 71.

Much food for thought is furnished by a Syrian relief sculpture from Amrit (published by Spamer, see fig. 71, 2), which exhibits a vulture or eagle with outstretched wings, in juxtaposition to a winged disk which appears to combine features of the Assyrian winged disk (the bird's tail and two appendages, see fig. 71,1) with the two uræi of the Egyptian form (fig. 71, 3). It is striking how clear the symbolism of the latter becomes when interpreted (1) as the symbol of the hidden god and his male and female form, Osiris and Isis, accompanied by the wings symbolizing air and the [pg 429] idea that the deity was invisible and immaterial; (2) as the symbol of Egypt itself —an entity, a complete circle, divided into two parts, under two rulers. The pair of antelope horns above emphasize the fact that the twain were as a single pair. The combined crowns of Upper and Lower Egypt, the latter exhibiting a serpent's head and the first, what appears to be its tail, constitute the symbol of joint rulership which, in this case, is accompanied by the feather, the rebus expressing the words “truth and justice.”

While the Syrian bas-relief conveys the idea of two separate kingdoms, one conveying the idea of single rulership, by the form of an eagle; the other of dual rulership, by the two uræi, each of which is crowned by a

small disk; the Egyptian symbol distinctly conveys the idea of a close union of two distinct parts. The historical fact that Menes succeeded in uniting both lands under a single crown, indicates clearly enough that the ancient empire had become disintegrated and that by marrying the female ruler of the south he had reinstated the dual government on its original primitive basis. That, during the period of separation and independence, a powerful gynocracy had been formed seems more than probable. Just as evidences are met with in ancient Mexico of the existence of female communities, so the Old World furnishes accounts, deemed fabulous, of powerful gynocracies. Thus we have heard of the Amazons, the fabulous race of women warriors who are supposed to have founded a powerful empire on the coast of the Euxine.

A searching analysis of the texts translated by Brugsch, relating to the ceremonies performed at the New Year and famous Sed festivals, as well as historical facts gleaned from the works of living authorities, throw a light upon the position and sacred duties of the Egyptian queens during many centuries. The critical examination of a number of inscriptions, translated by Brugsch, is found to show that the queen was the high priestess and living image of Hathor-Isis and the personification of the female principle of nature, associated in Egypt with the nocturnal Heaven and the Above, and their symbols, the bird or vulture, the cow, the female serpent, the moon, the stars, and in particular Sirius-Sothis. In remotest historical times the goddess-queen seems to have resided in her own capital, a fortress. The universal necessity to insure the safety of women and children in times of warfare may well have originally led to the assignment of a separate, permanent [pg 430] place of residence, to the female portion of the population. The New Year festival, which coincided with the heliacal rising of Sirius (20th July, Jul. Cal.) and the overflow of the Nile, which suspended outdoor activity, was generally celebrated throughout the land as the “union of heaven and earth,” or the

conjunction of “the sun and the moon, or Sirius.”

It was customary that, at this period, the queen, personifying the Sothis star, should come forth from her retirement and, surrounded by pomp and majesty, meet the king in solemn state, publicly occupy her place on the double throne, and share in the performance of sacred religious rites. It is easy to see that the idea underlying the entire ceremonial was the harmonizing of the actions of the sacred personifications of the dual principles of nature with the natural phenomena, from which arose a strange confusion of ideas concerning the relationship between these consecrated individuals and the powers of nature, which culminated in the artificial belief that they were divinely appointed mediators between humanity and the supreme power.

There are clear indications that the consecrated nuptials of king and queen marked the Sed festival which was celebrated, at the beginning of every fourth year, at Denderah. Brugsch tells us that the place on the roof of the Hathor temple, where the celebration of the Sed festival took place, is specially designated as “the place of the first feast” and in many cases this is shown to have been the small open temple, whose roof is supported by four columns (fig. 70, 2 and 3). In one passage it is expressly stated that “she, Isis-Sothis, consorts with her father, the sun, at ‘the place of the first feast,’” represented by a picture of the said temple (fig. 70, 6).

It is interesting to compare the following passage with the successive one, as they exhibit different phases of religious cult. “In solemn procession statues of the god Ra and of Hathor-Isis (Sothis-Sirius) were carried up the stairs from the interior of the temple to its roof (the tep-hat or head of the house) where, under the open sky or in the small open temple on the roof designated as Hait at Denderah, the idols were unveiled at a given time....” “On the morn of the New Year Isis-Sothis ‘beheld her father on the beautiful day of the birth of the disk’ (mas-aten) or

‘the birth of the sun’ (mas-ra).” It is described how “the goddess was led upon the roof so that she might behold the rays of her [pg 431] father on his rising.... She is sometimes addressed directly, being told ‘that thou shouldst see thy father on the day of the New Year.’ ” In other texts allusion is made to the approach of Sirius to the sun on New Year's day: “her rays join (heter) with those of the radiant god on that beautiful day of the birth of the sun's disk in the morning of New Year's day:” or “thou consortest with thy father Ra in thy open temple, thy beautiful face being turned towards the south;” and elsewhere, “she comes on her beautiful festival of the New Year, to unite her greatness in heaven with that of her father; the gods are festive and the goddesses are full of joy when the right eye (Sirius) unites itself with the left eye (the sun). She rests upon her throne in the place where the disk of the sun can be seen and the radiant one (Isis-Sothis) combines herself with the radiant one (the sun).”

On one of the columns of the roof-temple at Denderah, the following text is inscribed: “This temple of Rekhit flourishes in possession of a lion (mahes) and of his daughter ... of the Horus of the east and of the goddess Khont-abut. They assume her heavenly form on New Year's day and each one consorts with his neighbor.” Preceding inscriptions are made more clear by the following detached passages translated by Brugsch, which merit careful study. “An inscription at Abydos makes the goddess Safkhet say to the king: ‘thou didst appear as king upon thy throne on the feast hib-seb; like the god Ra at the beginning of the year.’ ” “The high-priest of Ptah at Memphis was charged with the celebration of the Sed festival, which was a general festival throughout the land.” “The annual going of the Hathor of Denderah to Edfu took place in the month Epiphi.” “The goddess Hathor-Isis of Denderah is frequently called the second female sun next to the sun's disk, the many colored, feathered goddess, and is identified with Isis-Sothis.”

According to an extremely ancient belief it was the goddess Hathor Isis-Sothis who caused the inundation of the Nile which, according to the inscriptions, coincided with the heliacal rising of Sirius. Owing to this circumstance she is called, “Isis the great, the mother of god, who causes the Nile to overflow when she shines at the commencement of the year,” or “the female sun who appears at the beginning of the year in the heaven as the divine Sothis star, the queen of the decan stars, whose rays illuminate the earth like those of the sun which appears in the morning. She is [pg 432] the mistress of the commencement of the year, who draws the Nile out of its source and thus confers life upon living human beings.” Elsewhere she is termed “the mistress of the commencement of the year, who makes the Nile rise at its period.” It is likewise said of her “on her beautiful feast of beholding her father, the heaven unites itself with the earth and the right eye unites itself with the left eye, at the beginning of the year.” She is described as Isis the great, the mother of god, the lady of Adut in Anet, the mistress of the beginning of the year, the monarch of the Sema? who appears on New Year's day to usher in the new year. (She is) the goddess Ament (the hidden one) in Thebes, Menat (the nurse) in Heliopolis, Renpit (*i. e.* the year) in Memphis, the divine star Sothis in Elephantine, the radiant one in Apollinopolis magna, etc.

In another passage Hathor-Isis is spoken of as “the goddess Mehen-net of the light-god and his Ar-hatef = (she who acts as pilot) in the boat sektet, which eternally passes through the heaven over the head of her father.” On the north wall of the Prondos of the Denderah temple Isis-Hathor is called “Hathor, the lady of Anet; Isis herself; the eye of Ra; the great one of Tentyra; the lady of heaven; the queen of gods and goddesses; the great Mat ... the female sun; the first in Tentyra; the true one amongst gods; the young; the daughter of a young ... [?] the beauty who appears in heaven; the truth which regulates the world at the prow of the bark of the sun; the queen and mistress of awe; the mistress of goddesses, Isis,

the great, the mother of the god."

The following texts from Brugsch are explicit enough: "The temple of Tentyra is fitted up for a bride, and is occupied by a bride." "The temple of Tentyra is in bridal array and contains a bride on the beautiful festival of the birth of the sun." "The temple of Tentyra is fitted up for a bridal and is in possession of a bride on her beautiful festival of the birth of the sun (mas-ra)."

The birth of a male or female Horus, of a young sun or moon, is alluded to in other texts as the "feast of the child in its cradle," and coincided with New Year's day. According to Brugsch, the festival of the child in its ses = cradle, nest, or couch, undoubtedly coincided with New Year's day, as is proven by the following inscription: "The bringing of the band of stuff to the great Isis, the mother of the god, for the obtainment of a happy year. Receive, receive happy years on the day of the night of the child in [pg 433] its cradle!"... It is usual to interpret the birth of the young child, or sun of the New Year as a mere allegory of the astronomical fact and it may have been thus in later times. On the other hand, historical data prove that the actual birth of a "child," the offspring of a royal sacramental marriage, did take place in the temple and that children, thus born, afterwards became the rulers of Egypt.

"At Luqsor, ... a great temple was built by Amenhotep III (B.C. 1414-1379) to 'his father Amen,' with special reference to the divine conception of the king.... His birth is the great subject of the temple ... and his mother Mut-em-ua is the prominent figure in those scenes, pointing to her being important as queen-mother...." Of the later king Hor-em-heb (B.C. 1332-1328) it is inscribed: "Amen, king of the gods, dandled him ... when he came forth from the womb he was enveloped in reverence, the aspect of a god was upon him; the arm was bowed to him as a child and great and small did obeisance before him " (Flinders Petrie, *op. cit.* pp. 177, 190 and 248).

The small Isis temple to the east of the great temple of Hathor at Denderah is specially designated as the lying-in chamber, or sacred house of birth. An inscription dating from the Roman period, on the outer eastern wall of this building reads: “Life! the female Horus, the youthful, the daughter of a hak (regent, Brugsch), Isis, the great, the mother of the Ra = god, is born in Tentyra in the ‘night of the child in its cradle,’ at the west side of the temple of Hat-seses (the great temple of Hathor).” It is, moreover, stated that “Horus, in female form, is the princess, the powerful, the heiress to the throne and the daughter of an heir to the throne.”

In another inscription, on the south wall of the small temple of Isis, the birth of Isis is described thus: “On this beautiful day, ‘of the night of the child in its cradle,’ on the great festival during which the world is re-adjusted, or balanced (sekhek en ta), the bringing forth of Isis takes place in the interior or centre of Anet (Tentyra) by the goddess Ap, the great, in the chamber of Ap, in the form of a dark red female person, the Khnum ankh, the lovely. Her mother, Nut, exclaimed at the sight of her: behold, (As is) I have become a mother. Thence the origin of the name Isis.... The south, towards the place of rising of the sun's disk, has been given over to her, and the north, towards.... [pg 434] She is, namely, the mistress of both sides of Egypt, with her son Horus and her brother Osiris.”

On the east side of the wall of the terrace at Denderah a similar inscription reads: “Uar-kher-ta is the name of this locality. The name of the place of the cradle of Isis is named Adut, which is the house where the ‘accouchement’ of Nut, the goddess of heaven, takes place. It is here that, at the time of the ‘night of the child in its cradle,’ the god-mother is brought into the world, in the form of a dark female, named Khnum-ankhet, the lady of love and the queen of the gods and goddesses. On seeing her, her mother exclaimed: As, îs *i. e.* lo, or behold, I have become a mother! Thence the origin of her name

Isis.... She is the lady of the temple of Egypt with her son Horus and brother Osiris, now and forever into eternity." The most instructive account of the festival which has come under my notice is the following, contained in another inscription in the temple at Denderah.

"The fourth day, supplementary to the year (of 360 days, *i. e.* the 364th day) is the beautiful day of the 'night of the child in its cradle' and is a great festival of preparation. During the night preceding this day there takes place the procession of the goddess Hathor and the divinities with her. The circuit of her temple is made and all is duly fulfilled according to the custom. Upon this follows the return to their places (chambers in the temple). The golden one (Nubet, the ordinary appellation of Hathor-Isis as the star Sothis-Sirius, Brugsch) rises, shining, above the brow of her progenitor, and her mysterious (literally, full of secrets) form is at the prow of the boat of the sun. As soon as she reaches the āk (centre) of her city in the presence of her Nomos, she beholds her dwelling with the most joyful feelings. When she enters her house her body is full of delight. When she has taken possession of her exalted dwelling, surrounded by her fellow-gods, who stand at each side of her, her soul in her body is full of rejoicings. When they join the rays of her father (the sun god) and are united to the radiance of his disk, the city Anet (Tentyra) is happy. Adoration is made in Adut (the lying-in chamber) and Pi-anet is in festive state, when it beholds the great, the powerful leader, she who creates the festival in the holy city on that beautiful day of the New Year."

Elsewhere we read: "The city of Anet is in a constant exaltation when the goddess Isis is born in it (in the small Isis temple) in the [pg 435] form of a dark red woman, whose name is Khnum-Ankhet, the lady of love, the queen of goddesses and women, the bride. It is beautiful to see the shining appearance of the ray of light in the heaven, in the dusk, at the time when she is born in this city.... A flying beetle (?) is born in the sky in the

primæval city of Tentyra at the period of 'the night of the child in its cradle.' The sun shines in the heaven at dusk when her birth has taken place. Gods and goddesses praise the name of her majesty...." "Ra-Hur of Apollinopolis magna, god Sam-ta, comes forth, or arises, in the dawn (akhekh) when the birth takes place in 'the night of the child in its cradle,' on the great festival of the entire world (or the entire land). He shines for her majesty when she has brought forth (the child). Her child is in the form of a beautiful boy, who is the lord of Tentyra. The gods and goddesses came to her carrying the symbol of life (the ankh) and the sceptre of power (the tam) so as to fulfil their desire and her wish" (p. 103).

The following extract from a papyrus which belonged to a priest of Amon, named Horsiesis of Thebes, of the time of Augustus, affords an extremely interesting insight of the mysterious ceremonial which had gradually developed. It is evident that the text, though apparently clear, must have been intelligible to the initiated only, who alone were able to understand the allusions to secret, sacred rites and their symbolical meaning.

"Thou raisest thyself to heaven, in the region of the city Ka ... thou goest with the king when he goes to Thebes ... thou seest the Sktt bark on its arrival in the city of Thebes and the two sisters united in Pi-ubkt ... thou seest the goddess Hathor who becomes the mother of her own mother[117] on the day ... of the Tx festival ... thy name is called amongst those of the judges on the great Hermopolis in the night of the festival of *he who remains* [pg 436]*in the middle or centre of his city* ... thou seest the immovable ones united into a quatuor, in form like a young bull ... thou seest their wives united together in the form of the goddess Anthat ... thou visitest the caves of Thebes when his majesty betakes himself to the zone of Smu.... The mistress of heaven comes to her house ... thou receivest a cloak from his hand ... the divine eye ... thou watchest at night in the chamber of birth on the day of the [lying in] birth of the goddess Mut....[Nut?] Thou

goest in with those who go in and comest out with those who come out like the great Horus in his temple ... thou seest in her domain(?) mysterious actions performed by the Pastophores. No one sees, no one hears (of them) ... thou hearest the voice of the singer in the temple, in varied modulations ... thou ascendest the stairway of the eternal circle of light, thou seest the strong ram in its domain ... thou seest ... in his first form, Osiris, in the house of purification." (Brugsch, *op. cit.* II, pp. 518 and 520).

A careful perusal of the preceding texts conveys an idea of the immense lapse of time it must have required for the state religion of Egypt to have developed itself and crystallized into a complicated ritual, the true significance of which, doubtlessly, gradually receded from view. The naïve primitive symbolization of the union of heaven and earth by the actual marriage of king and queen, followed by general marriage festivities, had naturally created, in course of time, a distinct privileged caste rendered "divine" by the circumstances attending their conception and birth. Once in existence the maintenance and insurance of the divine line of descent would naturally enforce the intermarriage of its members and the sequestration and guarded seclusion of the royal women and the virgin priestesses from whose ranks the destined mothers of the divine children were selected.

A more ancient form of symbolizing the union of heaven and earth seems to have been the cult of Apis, which, according to Maspero, preceded the building of the pyramids and could scarcely have arisen before the adoption of the cow or bull, ua, as the rebus of Polaris, the One = ua. A survival of Apis cult seems to be the allegorical sacred title "bull" (Osiris-Apis) bestowed upon the king, of "cow" upon the queen and "calf" upon their offspring, the young Horus. In later times the king was entitled "the ram" and wore his fleece and horns on visiting the queen. As a natural [pg 437] sequence, the fruit of their union was spoken of as "the lamb."

According to Herodotus (II, pp. 27-29, Cary's translation), “the sacred Apis, or Epaphus is the calf of a cow incapable of conceiving another offspring; and the Egyptians say that lightning descends upon the cow from heaven and that from thence it brings forth Apis.” “The Egyptian magistrates said ... the god [in the form of Apis] manifested himself at distant intervals ... and when this manifestation took place the Egyptians immediately put on their richest apparel and kept festive holiday.”

As stated by Mr. Wallis Budge, Apis worship was established at Memphis by Ka-kau, the second king of the second dynasty B.C. 4100. The veneration accorded to the bull, cow and calf, as embodiments of the dual principles of nature, in separate and in single form, seems to have been accorded in other localities to different animal forms and to have been replaced, in later times, by triads, composed of a god, goddess and their offspring, each great centre ultimately possessing their particular triad, the living images of which were the high-priest, high-priestess and their “divine” offspring. It should be noted that a group consisting of 8 + 1 = nine gods, high priests or prophets, accompanied the triad, the result being twelve “deities” in all, of which one = the child, was an embodiment of two principles and was the ka = the divine twain.

The transition of Apis worship from the animal to the human form was accomplished during the reign of the Ptolemies (B.C. 305-42) when Serapis or Osiris-Apis was introduced into Egypt and represented as a man with the head of a bull, wearing a disk and uræus. Long before this, however, androsphinxes and other combinations of the human and animal form had existed in Egypt. At Thebes the divine triad was formed by Amen-Ra, Mut-Hathor and Chonsu; at Edfu and Denderah we find Osiris, Isis-Sothis-Hathor and Horus. On the other hand, a curious inscription in the temple at Denderah, translated by Brugsch (II, p. 512), actually describes Amen-Ra as “the great god in Denderah, who periodically rejuvenates

himself and *becomes a beautiful boy, who is the concealed or hidden god, whose name is hidden*; who is the Horus with colored wings, coming forth in the upper hemisphere of Edfu, the lord of the double heaven."

The inference one might be tempted to make from this and other texts is that, at one period, a human babe, the fruit of a [pg 438] royal or sacerdotal union, was born in the temple on what constituted New Year's Day and was secretly worshipped there during the ensuing year, as the living image of Amen-Ra, the hidden god and "divine twain." I venture to point out that the adoption of the child as the image of the divinity was the logical sequence to the preceding employment of the bull as a rebus for the words ua = one and ka = twain; that the consecration of the human form must, undoubtedly, have given a strong impulse to statuary, and that the sanctification of the child correspondingly exalted motherhood and lent a particular consecration to the marriage of its "divine parents." The following facts, culled at random, afford a limit of the transitions and further developments which took place in Egypt in course of time.

Before proceeding, special mention must be made of one important point which throws a flood of light upon the extent of the development of separate cults of sun and moon and the institution of solar and lunar calendars which respectively governed the activities of the male and female populations. As this matter will be fully treated in my calendar monograph I shall merely note here that Brugsch cites texts proving the existence and simultaneous use of the two calendars, and the supreme importance accorded to the new moon of the month Epiphi on whose appearance the "goddess Isis-Hathor of Denderah embarked on her sacred barge and proceeded up the river, from her city to Edfu (Apollinopolis magna) where she joined his majesty ..., her father, ... the incomparable sun-god Ra, the first of Apollinopolis, the golden disk, whose children are numerous...." It is further stated that the god and goddess became inseparable like

sun and moon. Brugsch states that the appearance of the said new moon, which was also associated with the heliacal rising of Sirius, would range from Aug. 18 to Sept. 16, Jul. Cal. (see *op. cit.* II, pp. 282-1). The appearance of the goddess was the signal for the opening of a season of general "feasting and drinking, rejoicing, singing and dancing" throughout the land, to which the name Tekhu is given in some texts. This is translated by Brugsch as "the intoxication of gladness or joy;" it "coincided with the highest level attained by the overflow of the Nile," and its modern survival is the annual "marriage of the Nile" which takes place on the 23d of August.

It is curious to note how the original carrying out of primitive and naïve rites by the queen and high-priestess gradually caused [pg 439] her presence to be regarded as essential for the "drawing out of the Nile from its source" and her person to be surrounded with utmost veneration and sanctity. As Prof. Flinders Petrie states, speaking of as far back as B.C. 1383-1365: "The marriage to a royal high priestess of Amen was, of course, purely a political necessity to legitimate the king's position."

"It would seem that Hor-em-heb was not married to Nezem-mut until his accession, when he legalized his position by becoming husband of the high-priestess of Amen, as in the arrangement of the later dynasties. This marriage was an affair of politics solely, considering the age of the parties; Horemheb was probably between fifty and sixty at the time and if the queen was the same as Nefertiti's sister Nezem-mut, she must have been about the same age as Horemheb" (*op. cit.* pp. 183, 250). How long the female Egyptian ruler maintained her sway may, perhaps, best be seen by the following texts describing the political homage paid to the living goddess of the Egyptians under Ptolemaic and Roman rules.

One inscription clearly shows that, at the time of Ptolemy IX, Euergetes II, the living Isis was acknowledged as the

sole ruler of the land of the south by the king and his wife, queen Cleopatra III, who jointly occupied the throne of northern Egypt. Jointly the latter dedicated a beautiful hall to the goddess Isis, as a place in which to celebrate the Tekhu feast and in which she might linger at this season (Brugsch, *op. cit.* II, p. 284). I have found indications in other works that, in other localities, the goddess entered a secret chamber in the earth or pyramid or celebrated her sacred mysteries and festival on the sacred boat of the sun, in the sacred sea or lake belonging to the temple. In these cases it is obvious that the dominant idea was the performance of the sacred rites in the sacred centre or middle.

At a later period Cleopatra VII ascended the female throne at the age of seventeen and became high-priestess of Amen, the living image of Isis. It was understood that as soon as her brother Ptolemy XIV, then aged twelve, should come of age, she was to marry him. Partly for political reasons, akin to those which had caused king Horemheb, on his accession, to marry the high priestess of Amen, Julius Cæsar and Mark Antony become in succession the consorts of Cleopatra, after whose death Egypt became a Roman province. But the "land of the south," and traditional, [pg 440] divine, feminine rulership, lingered on. Under the third prefect, Ælius Gallus, Candace, queen of the Ethiopians, invades Egypt at the head of her army. She was defeated, but the position of the high-priestess of Amen, the living Isis, continued to be such as to exact the homage and an act of propitiation from the Roman Emperor.

An inscription, from the time of Augustus, records that a beautiful monument, or "house," had been erected by the "lord of the land, the autocrator, the son of the sun, Cæsar," and was presented, at the time of the Isis festival, to its possessor, the great Isis, the mother of the god, the mistress of the lying-in-house, the splendid and mighty queen of Philæ, the benevolent princess of Abaton, the daughter of the sun. She is likewise named "she who is

great or whose greatness extends towards the four quarters" and is designated as "the royal wife of the majesty of Osiris and the royal mother of Horus, the victorious bull," *i. e.* the ka. It is stated that "she found the house of birth brilliantly adorned and well arranged in every way" and she installed herself in its interior on a given day, so as to bring forth her son in these surroundings. One of the rewards promised to Cæsar for the delicate attention and gift bestowed upon the goddess is "eternal and permanent occupation of the throne of Horus, the first of the living ones." According to the Esne calendar a "divine birth" actually took place on a given date. Brugsch, referring to Plutarch and calendar texts, shows that the commencement of the Isis festival dated from the time when Isis assumed a phylactery, or amulet, to indicate that she had conceived.

Another inscription shows that Tiberius Claudius had caused the house to be renovated for "the mighty goddess Isis, the life giving mistress of Abaton, the good Hathor, the queen of the land of Nubia, the divine mother of the golden (Nub) Horus, the benevolent sister of Osiris, the great protectress who guards his son." As Tiberius Claudius, in this text named himself her loving son, it is obvious that the day had passed away when solely her own divine son Horus would be the one legitimate and divine heir to the Egyptian throne. It is interesting to surmise what became of the children whose "divine births" continued to be celebrated as a sacred occurrence to which even a Roman Emperor yielded homage. The natural sequence would have been that, accompanied by a band of devoted followers, the sons of the sun, the young bulls, [pg 441] *i. e.* the ka, or divine twain, and their sisters, would seek distant lands in which jointly to establish new kingdoms on the ancient, familiar plan.

Collectively, the preceding evidence has afforded a realization of some of the curious but natural results of the prolonged cult of the dual principles of nature in Egypt, the most remarkable being, perhaps, the creation

of a distinct, “divine” caste of individuals, from the naïve adoption of marriage and birth as consecrated religious rites, symbolical of the union of heaven and earth and the production of new life. While at one time, and in certain localities, this mode of symbolism obviously took the upper hand and fostered the growth of the artificial idea of the “divine rights of royalty,” there are evidences that, simultaneously, the union of the dual principles of nature was symbolized in one or more different archaic and primitive ways. These appear to have been separately adopted in various centres of thought where the disastrous and debasing consequences of the association of the idea of sex with the cult of heaven and earth, light and darkness, etc., were realized with disapproval.

We thus find that, even at Edfu, the ceremonial rite of lighting new sacred fire by means of a wooden instrument and friction was performed on the great Isis festival which was marked by the “divine birth.” According to the calendar of Canopus this fell on the first day of Payni, and a prescribed illumination of the temples and palace was kept up until the 30th or last day of the month. In the most ancient Egyptian calendars the “lighting of light” at the same period is also recorded (Brugsch, *op. cit.* II, p. 470) and, according to Herodotus, the festival was named “the lighting of lamps” and was observed throughout all Egypt. He adds that “a religious reason is given why this night is illuminated and so honored” (II, 61 and 62).

The influence of increasing astronomical knowledge likewise shows itself in the joint observation of the movements of sun, moon and stars and the determination of the relative positions of the latter to the sun at the periods of the equinoxes and solstices. Without taking period or sequence into consideration for the present, I merely note that we find evidence that, at one time, images of sun and moon, of the right and left eyes of Ra, or statues of Hathor-Isis and Osiris, replaced their living images in religious ceremonies.

Sometimes the entire ritual seems to have consisted in the union of water, the produce of heaven, with seeds, the produce of earth; the ensuing germination and production of young shoots being deemed sacred and symbolical of the renewal of life. The fact that statuettes of Osiris have actually been found, made of paste containing various seeds, distinctly shows that, like the Babylonian Baal, the Egyptian male divinity was identified with the earth. Another indication of this is furnished by the descriptions of the feast of Pan, which fell at the period of the spring equinox. At this period the crop of dura, which had been sown by the king in the sacred fields at Denderah, at the time of the "Osiris mysteries," immediately after the inundation had receded and "the earth was laid bare," became ripe. The ceremony of cutting the first sheaf of dura was performed by the king, with the silex sickle = khepes.

While Osiris was thus directly associated with the produce of the earth there are also evidences that, just as Isis became identified with birth and life, her consort became the lord of death and of the underworld. Mysterious rites and human sacrifices seem to have been instituted in his honor. According to obscure myths Osiris himself had been foully murdered, his body cut into fourteen pieces and cast over the length and breadth of the land. His head was supposed to be preserved at Abydos, the chief centre of his worship, and shrines were erected over the other portions of his body. It will be a matter for further research to investigate whether the "mysteries of Osiris" did not include the dramatization of the death of Osiris, in which a human victim personified the god and was actually killed and dismembered.

It is, perhaps, worth noting here, as an analogy, how appropriately the ancient Mexican annual sacrifice of a youth, chosen among the most perfect, might have answered as a rendition of the drama of Osiris. The body of the victim was divided and the pieces distributed to a

fixed number of priests and chieftains, who partook of them as sacred food. The head was preserved in the Great Temple itself, on the Tzompantli, and the large number of skulls seen there by the Spaniards constituted a proof of the great antiquity of the custom. The blood of the victim, poured upon seeds, seems to have been considered essential for bringing about the germination of the sacred shoots and typical of the union of the dual principles of nature and of life springing from death. Idols, formed of seeds moistened with human blood, were [pg 443] distributed to the participants in the ceremony. According to some authors this sacred paste, and not pieces of human flesh, constituted the consecrated food, eaten according to the prescribed ritual.

How far analogous rites were performed in Egypt remains to be seen; it is, at all events, certain that, by slow degrees, the cult of the dual principles of nature gave rise to the institution of strange unnatural rites, the original naïve meanings of which became obscured, debased or lost. While various localities of Egypt, notably Thebes and Abydos, appear to have become the birthplace of curious aberrations of the human intellect, there was one ancient and great centre of learning where monotheism and the knowledge of the fundamental scheme appear to have been preserved intact, namely, at Heliopolis, the ancient On or Anu of the North, named the “House of the Sun” by Jeremiah and “the Eye or Fountain of the Sun” by the Arabs. According to Mr. Wallis Budge, “its ruins cover an area three miles square ... the greatest and oldest Egyptian College or University for the education of the priesthood and laity stood here.... During the XXth dynasty the temple of Heliopolis was one of the largest and wealthiest of all Egypt and its staff was numbered by thousands. When Cambyses visited Egypt the glory of Heliopolis was well on the wane and, after the removal of the priesthood and sages of the temple to Alexandria, by Ptolemy II (B.C. 286), its downfall was well assured. When Strabo visited it (B.C. 24) the greater part of it was in ruins.... Heliopolis had a large population of Jews and

it will be remembered that Joseph married the daughter of a priest of On (Annu).... Macrobius says that the Heliopolis of Syria or Baalbek, was founded by a body of priests who left the ancient city of Heliopolis of Egypt" (The Nile, p. 132).

Indirectly we learn the tenor of the doctrines and ideas held by the sages of Heliopolis at one period by the remarkable attempt to reform the religion of Egypt, carried out by their pupil, Amenhotep IV (about B.C. 1450). Evidently realizing, with his masters, the extent to which the ancient fundamental religion had become obscured and debased by the multiplication of images of the deity, and the institution of rival cults, which were shrouded in mystery and darkness, the young prince boldly made war against the priesthood of Amen-Ra and the cult of a "hidden god."

Destroying the monstrous images which had originally been rebus figures only, and represented the supreme deity in partly [pg 444] human and animal form, he instituted the disk or circle as the simple and purer form under which the divinity was to be revered.[118] Animated by the clear realization to what an extent the original communal or republican scheme of organization was being departed from by the artificial creation of a "divine" race of kings who claimed to be gods, he caused himself and his queen to be portrayed as simple mortals, and not as the deities Osiris and Isis. Choosing the sun as his emblem, this champion of pure light and open truth fought the Egyptian votaries of darkness. He erased the word Amen = hidden, from public monuments, changed his own name from Amenhotep to Chu-en-Aten = the brilliance or glory of the disk and founded a city also named Chu-aten, which was to be the centre of a new and reformed state. It seems evident that this was instituted on the familiar archaic plan and that the so-called "heresy of Amenhotep" was but an attempt, backed by the sages and philosophers of Heliopolis, to abolish the artificialities and abuses which had come into existence

and destroyed the order of the state and the harmony of the primitive plan. It is well known that gradually Amenhotep's successors were obliged to yield to the hostility of the priesthood of the "hidden god" and that these, in turn, erased or defaced all images of the disk or aten within their reach.

Ineffectual though the grand attempt had been to reorganize state and religion and reëstablish republican principles, on the original plan, the knowledge of the original scheme seems to have been preserved intact during the following centuries, by the sages and philosophers of Heliopolis, by whom the primitive set of ideas seems to have been gradually developed into an abstract philosophical system. Reminding the reader that Plato spent "thirteen years in Egypt, in gaining an insight into the mysterious doctrines and priest-lore of the sacerdotal caste," I also draw attention to the passage in his "Timæus," in which Critias makes the statement [pg 445] that when Plato's ideal republic ... was being discoursed upon, he was reminded, to his surprise, of the account of a state given to the Greek sage, Solon, by the priests of Saïs, and perceived how, "in most respects, the republic described coincided with Solon's statements." It is indeed striking how clearly we can recognize, in Plato's republic, the underlying, primitive, universal scheme in this case, highly developed, elaborated, transfigured and transformed into the philosophical ideal of a great intellect.

Before demonstrating which of the main features of Plato's cosmogony and ideal republic we have found actually carried out in practice, let us briefly refer to the most ancient descriptions of the primitive government of Greece, preserved in the Timæus and Critias, where the conversations held, by Solon, with the priests of Saïs are recorded. Solon (about 594 B.C.) on his arrival (at Saïs) "was very honorably received; and especially, on his inquiring about ancient affairs of those priests who possessed superior knowledge in such matters, he

perceived that neither himself nor any one of the Greeks (so to speak) had any antiquarian knowledge at all.... One of their extremely ancient priests said to Solon: 'you (Greeks) are all youths in intelligence, for you hold no ancient opinions derived from remote tradition *nor any system of discipline* that can boast of a hoary old age.... In this our country, ... the most ancient things are said to be here preserved ... and all the noble, great or otherwise distinguished achievements, performed either by ourselves, by you or elsewhere, of which we have heard the report, all these have been engraved in our temples in very remote times and preserved to the present day. The annals of our own city (Saïs) have been preserved eight thousand years in our sacred writings ... your state has a priority over ours of a thousand years.... I will briefly describe the law and more illustrious actions of those states which have existed nine thousand years ...' " (Timæus). It is interesting at this point to recall also the familiar statements made by the priests of Saïs to Solon, concerning the immense antiquity of the human race and the "multitude and variety of destructions which have been and will be undergone by the human race ... after which nations become young again, as at first, knowing nothing of the events of ancient times" (Timæus, V).

Referring the reader to the original text I merely point out here that the priest of Saïs, referring to the sacred writings themselves, [pg 446] assigned to remotest antiquity the principle of distribution and arrangement on which the state had originally been founded and established. In the Critias the description of the Athenian state, which "had been founded nine thousand" years before, contains the following particulars which will appear familiar to the reader. "To the gods was once locally allotted the whole earth.... Obtaining a country agreeable to them by just allotment, they chose regions for their habitations.... Different gods received by lot different regions.... Hephaestus and Athene, a brother and sister, both received one region as their common allotment ... their temple was built on the Acropolis ...

whose northern and southern slopes were respectively associated with separate winter and summer residences." The population was divided into classes and each caste occupied a fixed place of residence. "The outer parts, down the flanks (of the Acropolis) were inhabited by craftsmen and husbandmen who tilled the neighboring land; the warrior-classes lived separately, by themselves, in the more elevated parts around the temple of Athene and Hephaestus, which they had formed, as it were, into the garden of a single dwelling by encircling it with one enclosure" (The Critias, VI). "... On this site was a single fountain which furnished every part with abundant water...." "The 'guardians of the state' were the 'leaders' of the Greeks and as to their number they paid special attention that they should always have the same number of men and women that might serve in war, the whole being about twenty thousand."

In the description given, in the Critias, of the state of Atlantis, the identical features recur, but are more fully described. In the centre of the island of Atlantis stood a mountain, surrounded by a plain, which was ultimately made square. The mountain was the residence of a pair of mythical lovers, consisting of a god and of a mortal woman, and became the birthplace of their offspring, "a divine race of kings." "The god ... with his divine power, agreeably adorned the centre of the island, causing two fountains of water to shoot upwards from beneath the earth, one cold and the other hot, and making every variety of food to spring abundantly from the earth." The central hill, from which thus proceeded all life and festivity, was at first "circularly enclosed, the land and sea being formed into alternate zones, greater and less, two out of land and three out of sea, from the centre of the island all equally distant." The ten kings, born of the "divine union, [pg 447] lived each in his own district and city, and ruled supreme over his people. The government and commonwealth in each case was, by the injunction of the god, according to the laws which were handed down. The latter were inscribed on a column of orichalcum

which was deposited in the centre of the island, in the temple of the god, where the ten kings originally assembled every fifth year. A fire burned near the column and a bull was sacrificed at its base, after which a sacred cup was filled with its blood and this was poured into the fire by way of purifying the column" (Critias, VII-XVI).

The above mention of a column is of interest when it is realized that, in historical times, the laws of Solon were actually inscribed on a square wooden pillar which was made to revolve or turn and was placed on the Acropolis. The presence of a revolving pillar on the Acropolis, the sacred centre of the Athenian state, is, moreover, curiously in keeping with the conception of axial energy set forth by Plato and awakens the desire to learn from Greek scholars what relationship, if any, there was between the Sanscrit aksa = axle or axis, the Greek akra (akris = summit, akros = most high, supreme, akrisios = mountain-top god) and the Egyptian ak = the Centre, and hak = a king; and whether the word polis = city was connected with polos = the pole-star, an axis, pivot or pole, from polein = to turn, and may be interpreted as the equivalent of the Egyptian An and Annu. It would also be important to learn whether the name of the principal ancient god of Greece, Apollo, who was revered under the form of a column at Delphi, can also be connected with the verb polein or pelein = to turn, as well as the name Polias *i. e.* the goddess protecting the city, a surname for Minerva (Athene) at Athens, where she was worshipped at one time as the protecting divinity of the Acropolis. The title Poliuchus, "protecting the city," occurs as a surname of several divinities and particularly of Minerva Chalchioecus, "of the brazen house," at Sparta and Athens. It is instructive likewise to compare the Greek words for axis = axon, and polis = city, with Helice, the name for Ursa Major and for a town in Arcadia, with the Egyptian Annu, An or On, the names of capitals, and the Egyptian word an = that which turns around. It will be for Greek and Egyptian scholars to enlighten us as to whether the Egyptian an and the Greek polis are

synonyms; in which connection I draw their attention to the following suggestive passage of the Critias (VII).... "Yet before we narrate this we must briefly warn you not to [pg 448] be surprised at hearing Hellenic names given to barbarians ... and the cause of this you shall now hear. Solon made an investigation into the power of names and found that the early Egyptians, who committed these facts to writing, transferred these names into their own language; and he again, receiving the meaning of each name, introduced it by writing into our language." While, on one hand, it is certain that the Egyptian astronomer-priests associated the pole star with the words An, Anu, Anubis, on the other, the following passages from Plato's works clearly demonstrate his views concerning axial rotation.[119] A fresh interest is undoubtedly added to Plato's philosophy when it is regarded as the possible result of the thirteen years spent by him with the Egyptian priesthood, who may possibly have confided to him the entire sum of their ancient philosophy and accumulated store of knowledge, and who certainly seem to have imposed upon him the reticence and obscurity noticeable in the Republic, the Critias and the Timæus.

To those who have followed my investigation of the ancient state organization and cosmical conceptions of the ancient Egyptians, and noted the interpretation given to the pyramid and the fact that Amenophis instituted the disk as the image of the Supreme Being, the following detached extracts from Plato's Timæus will appear [pg 449] familiar and full of fresh significance. "To discover the Father and Creator of this universe (also called the heaven or the world) or his work is indeed difficult; *and when discovered it is impossible to reveal him to mankind at large*.... The composing (or framing) Artificer constituted the universe from entire elements of fire, water, air and earth and ... considering that it would thus be a whole animal.... He gave it also a figure becoming and allied to its nature; and to the animal destined to comprehend all others within itself that figure as the most becoming which includes within itself every sort of figure whatever.

Hence he fashioned it in the shape of a sphere, perfectly round, having its centre everywhere equally distant from the bounding extremities.... He assigned to it a motion peculiar to itself ... making the world to turn constantly on itself and on same point, he gave it a circular motion ... he assigned to it a motion peculiar to itself, being that of all the seven kinds of motion.... As for the soul, he fixed it in the middle, extended it throughout the whole and likewise surrounded it with its entire surface ... and so, causing a circle to revolve in a circle, he established the world as one substantive, solitary object.... *Let the universe be called heaven or the world or by any other name it usually receives*.... The soul of this universe [pg 450] ... being composed of three parts ... being interwoven throughout from the middle to the very extremities of space and covering it even all around externally, though at the same time herself revolving within herself, originated the divine commencement of an unceasing and wise life throughout all time.... Time ... was generated with the universe.... Time ... an eternal image *on the principles of numbers* ... the perfect number of time completes a perfect year ... for this purpose ... were formed *such of the stars as moved circularly through the universe*...."

While a careful study of Plato's work will further elucidate his views concerning the quadruplicate nature of the universe, of its comprehensive unity, of axial rotation, the generation of time and of the principle of numbers, I point out that the following passage conveys the idea of applying the universal plan to the regulation of human thought: "This, however, we may assert, that God invented and bestowed sight upon us for the express purpose, that on *surveying the circles of intelligence in the heavens*, we might properly employ those of our minds, which, though disturbed when compared with the others that are uniform, are still allied to their circulation and that, having thus learned and being naturally possessed of a correct reasoning faculty, we might, *by imitating the uniform revolutions of divinity*, set right our own silly

wanderings and blunders."

There are two portions of Plato's cosmology to which I wish particularly to draw attention, because of the striking examples that exist, showing that the views therein expressed and suggestions given, were independently carried into practice in ancient times, in widely separated countries. One is the suggestive attempt to figure the Cosmos by geometrical images, a method which had been carried out by the pyramid-builders and Amenophis III and suggests an explanation for the origin and meaning of the geometrical decoration that prevailed at one period of antiquity. The other is the association of time with the principles of numbers, the most remarkable exemplifications of which are furnished by the Egyptian, Hindu, Chinese, Mexican and Maya cyclical systems, founded upon the associations of divisions of time and numerals, and even and uneven numbers with day-names, etc.

Having hastily noted some features of Plato's Cosmos let us next obtain an insight into the ideas associated with Polaris and the Septentriones by the ancient Greeks and their neighbors, before [pg 451] and after Plato's time. I gratefully acknowledge my indebtedness to Mr. Richard Hinckley Allen's "Star-names and their meanings" (New York, 1899), for the following valuable information and at the same time express my regret that his useful work was unknown to me when I wrote the preceding portion of my investigation.[120]

"Ursa Minor was not mentioned by Homer or Hesiod for, according to Strabo, it was not admitted among the constellations of the Greeks until about 600 B.C. when Thales, inspired by its use in Phœnicia, his probable birthplace, suggested it to the Greek mariners in place of its greater neighbor which till then had been their sailing guide. Thence its title Phœnice and Ursa Phœnicia. But it also shared, with Ursa Major, the titles Septentrio, Aratos, Amaxa, Aganna and Helice. It also bore the 'early and

universal title' Kynosura or Cynosura, usually translated 'the Dog's Tail,' the origin of which is uncertain, Bournouf asserting that 'it is in no way associated with the Greek word for dog.' Cox identified the word with Lycosura (meaning tail or trail of light), which recalls the city of that name in Arcadia considered, by Pausanias, the most ancient in the world, having been founded by Lycaon some time before the Deluge of Deucalion."

"Euclid said in his Phainomena: 'A star is visible between the Bears, not changing its place, *but always revolving upon itself*' (*cf.* Plato's Cosmos). Hipparchus, that the pole was 'in a vacant spot forming a quadrangle with three other stars,' both writers calling this Polos, the Polus of Lucan, Ovid and other classical Latins, and Euphratean observers had called their pole-star Pūl or [pg 452] Bil. But, although other astronomical writers used these words for some individual star, there is no certainty as to which was intended, for it should be remembered that, during many millenniums, the polar point has gradually been approaching our pole-star which, 2000 years ago, was far removed from it, in Hipparchus' time 12° 24' away, according to his own statement, quoted by Marinus of Tyre and cited by Ptolemy. Heraclitus, the Ionian philosopher of Ephesus of about 500 B.C., asserted that this constellation marked the boundary between the east and the west, which it may be regarded as doing when on the horizon." This statement is of extreme importance as it proves an orientation of the north by the pole-star and not by the solstitial position of the sun. "Another name for it, πλενθιον, used for it or its quarter of the sky, was from the Greek, as seen in Plutarch's αἱ τῶν πλινθίων ὀπογραφαί the 'fields' or 'spaces' into which the augurs divided the heavens, the templa, or regiones cœli of the Latins...."

"In Homer's Iliad and Odyssey the use of the seven stars of Ursa Major in Greek navigation is clearly shown. The constellation is entitled the Bear = arctos, described, according to different translators, as 'circling on high,'

‘wheeling round,’ or ‘revolving around the axle of the sky.’[121] Homer used, equally with Arctos, [pg 453] the name Amaxa = the wain or wagon, to designate the seven stars. Aratos called the constellation the ‘Wain-like Bear;’ and, alluding to the title Amaxa, asserted that the word was from ama = together, the Amaxai thus circling together around the pole; but no philologist accepts this and it might as well have come from axion = axle, referring to the axis of the heavens. In fact Hewitt goes far back of Aratos in his statement that the Sanscrit god Akshivan, the Driver of the Axle (aksha), was adopted in Greece as Ixion, whose well-known wheel was merely the circling course of this constellation. Anacreon mentioned it as a Chariot as well as a Bear; and Hesychius had it Aganna, an archaic word from agein, ‘to carry,’ singularly like, in orthography at least, the Akkadian title for the Wain stars, Aganna or Akanna, the Lord of Heaven; and Aben Ezra called it Ajala, the Hebrew word for ‘waggon.’ The name Helice from Ελιξ, the Curved, or Spiral One, apparently first used by Aratos and Apollonius Rhodius, became common as descriptive of its twisting around the pole, ... Sophocles having the same thought in his mention of ‘the circling paths of the Bear.’ Some, however, derived the name from the curved or twisted positions of the chief stars.... Helice was also the name of a city in Arcadia, the country so intimately connected with the Bears, whose inhabitants were called the Bear race.”

As far back as Hesiod's time the constellation was associated in myth, with the name Kallisto, “the beautiful,” which “La Lande referred to the Phœnician Kalitsah or Chalitsa, Safety, as its observation helped to a safe voyage. Another version of the Grecian myth associated the constellation with Artemis, the Roman Diana [*i. e.* the huntress, *cf.* Ishtar and Isis-Satit].” The apparent connection of the name Artemis with Themis = “law and justice personified,” should be noted here.

The preceding statements establish that, in ancient Greece, Polaris was identified with the celestial Polos and was described as a star, not changing its place, but always *revolving on itself* and it appears superfluous to point out how closely Plato's Cosmos agrees with the current astronomical theories. The Ursæ, on the other hand, were identified with the titles Helice, referring to axial rotation, and with the names Aganna (Akanna) Arctos and Amaxa, which are identical in sound with the words we have found associated with Polaris and the Septentriones in the ancient Egyptian texts.

[pg 454]
Deferring the demonstration that a number of the natural objects or animals represented in the Egyptian rebus signs, which were merely employed in hieratic script to express the syllables an, am, ar, ak, etc., are to be found as actual names for Polaris and the Ursæ in different western Asiatic and other countries, I shall now briefly show that, in remotest historical times, the Grecian states were established upon the model of an ideal republic such as is outlined in Plato's works, in accordance with current cosmological conceptions. According to ancient tradition the aborigines of Attica were first civilized under Cecrops who is said to have come hither from Saïs, Egypt, about 1500 B.C.

Turning to Iwan Mueller's monumental "Alterthumswissenschaft" (IV. Handbuch der Griechische Alterthümer), let us examine the data he presents concerning the beginnings of Athenian culture.

"The historical inhabitants of Attica belonged to the Ionic race and claimed to be autochthonous.... They were grouped into four tribes: the Geleontes, Argadeis, Aigikoreis and Hopletes. The existence of these four tribes is usually connected with a territorial division of Attica into four parts and their names are supposed to have been derived from the location and occupation of each tribe. The Geleontæ = the shining ones, are said to have formed

the priest or warrior caste and to have lived in Pedion. The Argadæi were the agriculturists and were situated in the plain of Thriasis. The Aigikoræi or goatherds were assigned to Diakria. Authorities still disagree about the habitation of the Hopletes, 'the armed ones.' The interpretation of these names is still open to doubt. An ancient tradition attributes to them an Ionic derivation.... On the other hand, it is probable that when they emigrated to Attica the tribe remained separate and became associated with their place of residence ... at a later period the phratries were associated with localities.... Each of the four castes had its chieftain and an equality of rank seems to have been maintained. In ancient times the citizens were divided into three classes: the Eupatridæ or nobility; the Geomoræ or farmers; and the Demiurgæ or artisans, merchants, potters or fishermen,—in fact all who exercised some occupation.

"The political unity of Attica was centred in the plain of Cephisos, which was the kernel of the country. In the lower part of the plain, about a mile from the sea, situated on a plateau, and [pg 455] crowning a high rocky elevation, lay the ancient fortress Cekropia, the residence of Cecrops and Erechtheus, the mythical, earth-born forefathers of the Athenians. At the foot of the fortress, a lower town gradually grew up and spread itself towards the south. This primitive Athens originally formed only the nucleus of a small kingdom situated in the plains and surrounded by enemies.... According to an Attic tradition Cecrops collected the inhabitants of Attica into 12 ... tribes, states or communities.... The names of several of these have been shown to have also been applied to capitals which were independent centres of government. Athens, the centre of the state, developed into a large city in which the nobility of the whole country resided and where many artisans also settled. The majority of the citizens lived, however, in the surrounding country.... The harvest festival, held at ancient Athens, in honor of the goddess Athene, the patroness of agriculture, was also a general feast for all

inhabitants of Attica ...” (pp. 104-108).

The foregoing suffices to establish that, in remotest antiquity, Attica was divided into four territorial divisions, with a central seat of government, the capital, which formed the fifth division. The inhabitants of the four regions constituted four tribes, each under its own chieftain. Each tribe became identified with a different occupation and ultimately constituted castes which remained associated with their place of residence. Simultaneously with this territorial distribution, another classification of the population was evolved, which divided it into three strata, corresponding to the upper, central and lower caste and thus yielded a total of seven great divisions of the state, which thus reveals itself as having been a heptarchy and explains the constitution of the Heptanomis, which existed in Central Egypt under Greek rule.

From the preceding material it appears that when Solon divided the people into four classes, he merely reinstated the most ancient form of state organization known in Greece. It would be interesting to learn how far the following offices had been previously known. It is well known that Solon instituted nine archons (literally leaders), which seem to have been the equivalents to the group of “nine gods” mentioned in Egypt in association with the supreme god or goddess. The characteristic feature of the archons appears to have been the fact that they were elected and that the first archon was surnamed Eponymos and gave his name to the year; [pg 456] the second archon, entitled Basileus, was the king, and the third, Polemarchas, was a warrior. The remaining six were collectively called Thesmothetes, administrators of right or justice. Under the above was the Council of Four Hundred. Each of the four phylæ fell into three parts or thirds, producing a total of 12, a number corresponding to the organization of twelve tribes, communities or states. Each of these was divided into 4 Naucrariæ, under 48 captaincies. The following extracts from Iwan Müller's

work supply us with further details concerning the Athenian government and show that variants of the same existed at different periods, throughout ancient Greece.

“At Athens, in historical times, the members of one tribe formed a corporation, recognized a common ancestor, observed a form of ancestral cult and kept a tribal register with the names of all newly born children (p. 20). The tribes formed corporations within the state, and each had its own cult and chieftain.... The Doric nation consisted of three such tribes.... In Ephesus the citizens were divided into five ‘gens’ (*i. e.*, four quarters and centre). It is certain that in Athens, Cyrene, and Chios, the phratries were communities with separate forms of cult, who worshipped beside their tribal deities, Zeus Phratrios and Athena Phratria ...” (pp. 20 and 21).

“In Teos the towns inhabited by a ‘gens’ were divided into at least seven quarters.... In Tenos each gens was known as ‘a tower,’ and each individual bore the name of his tower and his gens.” Pausing here for an instant, I draw attention to the recurrence in Greece of certain features of the Great Plan which must now be familiar to the reader: the association of divisions of people with a “tower,” an artificial “high place” or mountain, the development and existence of separate forms of cult, corresponding to tribal and territorial divisions; the supreme cult of a male and female divinity, corresponding to the traditions that the state was founded by two individuals and was governed by two rulers. An illustration of this is furnished by Sparta, which “was governed by two kings, belonging to two different royal families ... the origin of this custom is unknown ... these kings usually were at enmity with each other....” “The population of Sparta was primarily divided into five ‘phyles,’ identified with five local districts. The names of the latter, Pitane, Mesoa, Limnai, Konoura and Dyme, were identical with those of the five Comes or [pg 457] group of separate communities which had constituted the state of Sparta at the time of Thucydides.” It will be perceived that this organization corresponds to that of a capital and four provinces. Simultaneously the population was grouped into three main classes and twenty-seven phratries.

Considering that in ancient times the belief prevailed, and was shared by the Spartans themselves, that Lycurgus had introduced his scheme of organization from Crete, it is interesting to learn that “the Cretans themselves claimed that their laws dated from a remote antiquity and had been communicated to Minos and Rhadamanthus by Zeus himself.” In one of the most ancient portions of the Odysseus, Idomeneus is represented as ruling in particular

over cities situated in *the middle* of the island. In historical times the central rulership or monarchy had been abolished and “the state was ruled by ten chiefs of tribal divisions, who bore in common the title Cosmos and held office for the limit of one year.” Although the most ancient accounts of the maritime supremacy of Crete under its king Minos, the “son of Zeus,” are regarded as grossly exaggerated, modern authorities agree that, on account of its geographical position, Crete must undoubtedly have been an extremely important centre of maritime commerce, during a prolonged period.

On this account, and because the Spartans acknowledged to have received their scheme of organization from Crete, I draw particular attention to the design on a coin from Cnossus, the most important capital of Crete, which recently arrested my attention. It is preserved at the Berlin Museum and is reproduced in Spamer's work, already cited (fig. 72, 14 and 15). On the obverse, it exhibits the fabulous Minotaurus the monster, half man and half bull, who is stated to have ruled the island. On the reverse, is a geometrical figure, representing a swastika, in the centre of which is the five-dot group. A similar coin also found on the site of Cnossus, and assigned to B.C. 700, is preserved at the British Museum. Its reverse exhibits also the five-dot group and the swastika, between whose branches are four large dots or circles. In the Berlin Museum specimen the latter are replaced by squares containing cross lines. To any one familiar, in the first case, with the scheme of organization into five Comes, *i. e.* 4 + 1, such as has been shown to have been adopted in Sparta and elsewhere in Greece, the design on the reverse of both coins appears perfectly intelligible. No geometrical or cursive sign could more clearly express the [pg 458] scheme or ground-plan upon which the most ancient form of government in Greece has been shown to have also rested.

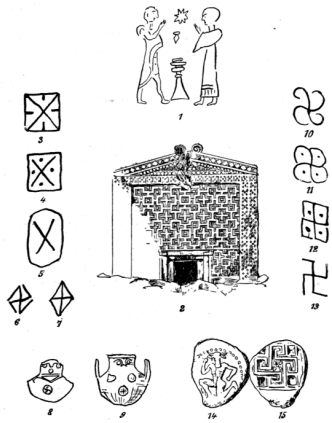

Figure 72.

As to the image of the Minotaurus on the obverse of the Berlin coin: to any one familiar with the widespread system of figuring the state under the form of a human being or of a quadruped, and of symbolizing its ruler as its head, the image appears intelligible as that of the quadruplicate state. The circumstance that the head is that of a bull seems to indicate that, like the Egyptians, the Cretans applied the title “bull” to their king; thence perhaps the fable that the island was at one time governed by the monster [pg 459] Minotaurus who claimed as annual tribute, from conquered tribes, seven youths and maidens. It is striking how perfectly the geometrical figures on the reverse of both coins, which I hold to represent territorial divisions, seem to form the complement to the image of the state represented in semi-human and semi-animal form. Interesting variants of the same design appear on two coins of the same period in the British Museum collection. One of these, from Syracuse, exhibits a swastika, in the centre of which is a human head—a sign which I should interpret as the image of a state and its single central ruler. A coin from Corinth displays a plain swastika only, which suffices to indicate, however, that its state organization was on the familiar plan.

In connection with the swastika and five-dot group it is interesting to examine some ancient Egyptian seals exhibiting crosses with four dots or strokes (fig. 72, 3-5), and to compare these with Rhodian specimens (10-13). On vases found by Schliemann on the site of Troy (8 and 9), we find, in one case a swastika and in the other a cross and four dots in a circle forming the nave. It is interesting to compare the Athenian nos. 6 and 7, one being a swastika and the other a cross in a lozenge.[122] An extremely curious instance of an entire decoration of a building consisting of crosses and five-dot groups, is furnished by the cenotaph erected by a late king in honor of Midas, king of Phrygia (fig. 72, 2), which, curiously enough, offers much resemblance to the geometrical style of stucco decorations of the ruins of Mitla, Mexico.[123] The presence of the swastika on coins assigned to about B.C. 700 and its use in Greece, where plain cross-symbols had previously been employed, naturally leads to the inquiry as to the oldest-dated swastikas which have hitherto been found in Greece and Egypt.

In his important work on the subject already referred to, Prof. Thomas Wilson (*op. cit.* pp. 806 and 833), cites the opinions of Prof. Max Müller and Count Goblet d'Alviella as agreeing with that of Waring, who states that “the swastika is sought for in vain in Babylonia, Assyria and Phœnicia,” and “had no foothold in Egypt.” The same authority says that: “the only sign approaching the fylfot in Egyptian hieroglyphics ... is not very similar to our fylfot ... and forms one of the hieroglyphs of Isis” [pg 460] (Ceramic Art in Remote Ages, p. 82). On the other hand, Professor Goodyear says (Grammar of the Lotus, p. 356): “The earliest dated swastikas, hitherto found in Egypt, occur on the foreign Cyprian and Carian [?] pottery fragments of the time of the twelfth dynasty [B.C. 2466-2266] discovered by Mr. Flinders Petrie in 1889. In the Third Memoir of the Egypt Exploration Fund, Prof. Flinders Petrie published illustrations of Greek vases showing unmistakable swastikas which, though found at Naukratis in Egypt, are not Egyptian, but Greek.”

The only other examples of the swastika in Egypt cited by Prof. Thomas Wilson are those woven on Coptic grave cloths made of linen and reproduced in “Die Gräber- und Textilfunde von Achmim-Panopolis by R. Forrer.” These grave cloths pertained to the Christian Greeks who migrated from their country during the first centuries of our era and settled in Upper Egypt, in Coptos and the surrounding cities. I am able to add another instance of the employment of the swastika in Egypt, which, although of Coptic origin, attaches itself to ancient Egypt.

I have already pointed out that, in Lepsius' Book of the Dead, the foremost of the gods of the four quarters, represented in mummy form, exhibited a cross on his right shoulder. During a recent visit to the Berlin Museum, my attention was arrested by seeing a swastika painted in precisely the same position, on the right shoulder of the stucco mummy case of a man, from Hermopolis, dated from the second century after Christ (Catalogue No. 11649). This remarkable coincidence seems to furnish conclusive evidence that, long before the introduction of Greek culture and Christian influence, the plain cross was employed by the ancient Egyptians in precisely the same way as, subsequently, the swastika by the Copts. To some of my readers the question will perhaps suggest itself whether some early Christian sects and, amongst them, communities of Greek Copts, did not interpret the mission of Christ literally, as an attempt to reëstablish an earthly “kingdom of heaven” on the ancient plan, the knowledge of which had been preserved at Heliopolis, by the sages and philosophers of Egypt and the large Hebrew colony established there.

Returning to the swastika: From the account given by Prof. Thomas Wilson (*op. cit.*, 810) of Schliemann's observations on the swastikas he discovered, during his excavations on the site of Troy, we learn that, whereas the swastika occurs on thousands of whorls [pg 461] found in the third, fourth and fifth cities, but few whorls were found in the first and second cities, which were the

deepest and oldest and *none of these bore the swastika mark*. These observations, added to the appearance of the swastika in Egypt at a comparatively late period, appear to prove that, whereas the cross-symbol was known in remotest antiquity in Asia Minor and Egypt and expressed the same meaning as the swastika, *i. e.* Polaris and circumpolar rotation and the quadruplicate organization of the Cosmos suggested by these natural phenomena, it was only the form or shape of the cross which underwent a change at a certain period. The earliest-dated specimens of this new form, given to a more ancient symbol, occur on the pottery fragments found in Egypt by Prof. Flinders Petrie. The presence of the swastika, on the whorls found in the ruins of the third city built on the site of Troy, also indicates that its adoption occurred at a fixed date and marked a new departure.

Referring back to page 21, where I show that the observations which led to the adoption of the swastika as a symbol could not possibly have been made until after Ursa Major had become circumpolar, about B.C. 4000, I point out that the oldest swastikas which have hitherto been found corroborate this view, since they are all posterior to the time when Ursa Major became circumpolar. Long anterior to its adoption, however, the primordial set of ideas, suggested to the human mind by the observation of natural phenomena, had reached an advanced stage of development, and had been worked out, applied to the regulation of human life and symbolized, in various ways, in widely separated countries.

It is impossible to conclude my comparative research, which has been rewarded by a most unexpected wealth of material, without enumerating a few facts connected with the earliest histories of Rome, ancient Ireland, Britain, Wales and Scandinavia. These brief and doubtlessly imperfect résumés will have fulfilled their purpose if they stimulate inquiry and evoke authoritative statements by learned specialists.

Whether Rome “was founded by the common resolve of a Latin confederacy or by the enterprise of an individual chief, is beyond the reach even of conjecture. The date fixed upon for the commencement of the city is, of course, perfectly valueless in its [pg 462] precision” (Chambers' Encyclopædia). “According to Varro the city of Rome was founded B.C. 753, but Cato places the event four years later.... The day of its foundation was the 21st of April, which was sacred to the rural goddess Pales. There seems to be some uncertainty whether Romulus gave his name to the city or derived his own from it, but those who ascribe to the city a Grecian origin ... assert that Romulus and Roma are both derived from the Greek word for ‘strength.’ The city, we are assured, had another name which the priests were forbidden to divulge; but what that was it is now impossible to discover.[124] There is, however, some plausibility in the conjecture that it was Pallanteum, and from the great care with which the Palladium, or image of Pallas, was preserved, it seems probable that the city was supposed to be under the care of that deity. If this conjecture be correct, the Pelasgic origin of Rome cannot be doubted, for Pallas was a Pelasgic deity....

“The institution of the vestal virgins was older than the city itself and was regarded by the Romans as the most sacred part of their religious system. In the time of Numa there were but four ... their duty was to keep the sacred fire on the altar in the temple of Vesta from being extinguished and to preserve a certain sacred pledge on which the very existence of Rome was supposed to depend.[125] What this pledge was we have no means of discovering; some supposed that it was the Trojan Palladium; others, some traditional mystery brought by the Pelasgi from Samothrace. One fact is certain: that the Palatine is regarded as the oldest portion of the city and the original site and centre of the embryo mistress of the world and mother of cities, the *Roma quadrata*, fragments

of whose walls have been brought to light.[126]

“Tradition relates that it was on the Palatine that Romulus marked out the Pomœrium, a space around the walls of the city, on which it was unlawful to erect buildings.... The next ceremony was the consecration of the comitium, or place of public assembly. A vault was built under ground and filled with the firstlings of all the natural productions that sustain human life and with [pg 463] earth which each foreign settler had brought from his home. This place was called *Mundus*” (History of Rome, Goldsmith's abridgment, 21st edition, by W. C. Taylor, p. 13).

This fact furnishes evidence that the sacred central cosmical vault over which a mound may have been formed by the earth contributed from different quarters, was regarded as a synopsis of all, and that sanctity was also attached to the central place of assembly where justice was administered at regular intervals, weekly markets were held and religious rites were celebrated.[127]

Tradition relates that, after the foundation of the central “Mundus,” the founder of Rome established the Sabine town which occupied the Quirinal and part of the Capitoline hills. “The name of this town most probably was Quirium ... the two cities were united on terms of equality and the double-faced Janus, stamped on the earliest Roman coins was probably a symbol of the double state.” It is significant to find not only that Janus was sometimes depicted with four faces instead of two, in which case he was called Janus Quadrifrontis, but that references are also made to the female form of Janus = Jana, the latter being identified with Diana. Considering that it was from Quirium that the Roman youths obtained Sabine wives by force, which had been refused to their entreaties, it would seem as though, originally, as elsewhere, the men and women of the community resided separately and that stringent laws regulated their intercourse. In other ancient communities

it has been shown how the separation of the sexes created in time an upper and lower class, and to the same origin may perhaps be assigned the most remarkable feature of the Roman constitution, *i. e.* the two-fold division of the people into patricians and plebeians.

While the foregoing statements throw light upon the ideas associated with the Middle and show that Rome was originally a dual state, the following facts furnish indications of a quadruplicate division. At an early period Rome was laid out and enclosed in a square, the population *was divided into four tribes* and mention [pg 464] is made of "the state, under Servius Tullius, being an entity divided into *four cities* and twenty-six tribes ... this being strictly a geographical division analogous to our parishes. The division of the city into four tribes continued until the reign of Augustus (B.C. 29)...."[128]

The four chief religious corporations of ancient Rome, mentioned in the Century Dictionary, evidently correspond to this fourfold division and it is specially stated of one of these corporations that it was represented and governed by a group consisting of seven "septemvir epulones" who formed a "septemvirate."

The number of septemvirs corresponded to the "seven hills" which were enclosed by Tullus Hostilius, and it is stated that there were seven places of worship in ancient Rome. It is interesting to find that between A.D. 193 and 211, Septimius Severus, a native of an ancient Punic colony in Africa, erected a Septizonium (an edifice consisting, like the Babylonian zikkurat, of seven stories) on the Palatine, where a large temple of Apollo had previously been built.[129]

Although it is thus evident that, at different periods, seven-fold division was carried out in ancient Rome, it was not until after the reign of Theodosius, according to some authors, that the seven-day [pg 465] period was imported from Alexandria and the term "septimana" adopted in Rome. "Previously to this Rome had counted

her periods by eight days, the eighth day itself being originally called Nundinæ—a term later applied to the whole cycle" (Chambers' Encyclopædia). Noting that the period of eight ($=2\times4$) days accords with the quadruplicate system applied to the primitive state, I draw attention to the numerical classification of the citizens of Rome employed during centuries, which so curiously agrees with the system carried out in Peru at a widely sundered period (see p. 141).

Ten households formed a gens (clan or family); ten clans or one hundred households formed a curia or wardship; and ten wardships, or one hundred clans, or one thousand households formed a populus, civitas or community. As it is stated that, at one time, Rome consisted of four cities, it is obvious that the above numbers, quadrupled, constituted the state which thus included forty wardships, four hundred gentes and four thousand households. As each gens possessed a chieftain, endowed with paternal authority over its members, there must, at one time, have been four hundred of these "patricians," whose number is thus found to correspond to the Greek "Council of 400" and curiously enough to the "four hundred Tochtli" or governors of the ancient Mexican commonwealth.

A noteworthy feature of the attempt to institute the Decemvirate in Rome (5th century B.C.) was the arrangement that the ten chosen men exercised office in prescribed rotation for one day, each ruling, in consequence, for thirty-six days in the year which, like the Egyptian, then consisted of three hundred and sixty days and of an epact of five days. The assignment of a day to each chieftain finds its parallel not only in Assyria but also in ancient America (see p. 181).

In connection with the Roman communal organization, attention is drawn to what appears to be a remarkable survival of an extremely ancient and natural mode of distinguishing the wardships. It is well known that, according to tradition, the republic of Siena, Italy, was

founded at a remote period “by the sons of Remus, the twin brother of Romulus.” The following facts prove that, to this day, certain features of its social organization exhibit an affinity to that of primitive Rome. “Siena, from the earliest day, has been divided into contrade or parishes. Each contrada has its special church, generally of great antiquity, and each contrada is [pg 466] named after some animal, or natural object, these names being symbolical of certain trades or customs. There are now the wolf, giraffe, owl, snail, tower, wave, goose, tortoise, etc., in all seventeen. Each has its colors, heralds, pages, music, flags; all the mediæval paraphernalia of republican subdivision” (Frances Eliot, Diary of an idle woman in Italy I, p. 19).

The employment of the names of animals and natural objects as distinctive marks for a wardship offers a curious analogy to the American institution of tribal names and totems.

The circumstance that, in remotest times, the king of Rome, the acknowledged metropolis or mother city, was accompanied, on public occasions, by *twelve* lictors or administrators of justice, each carrying the axe tied in a bundle of rods, shows that, at one time, the government was administered by thirteen individuals—a method we shall find again in ancient Ireland and Scandinavia. The history of Rome reveals that the different variants of governmental scheme adopted, one after the other, under influences emanating from Greece and Egypt, were reared upon the familiar universal plan. The most striking instance of this is, however, furnished by the details preserved of the groundwork on which Constantine founded (A.D. 330) the city he intended to be the capital of a universal empire, and named the New or Second Rome.

Historians relate that the peninsula of Byzantium offered striking resemblances to the sites of Carthage and Rome. The design of Constantine embraced the entire peninsula

with the seven hills upon it. “On foot, with a lance in his hand, professing to be under the guidance of divine inspiration, the emperor directed the line which was traced as the boundary of the destined capital.” ... “In imitation of Rome at that period, the city was divided into $2 \times 7 =$ fourteen wards (regiones).... Its centre was marked by a column ... surmounted by a bronze colossus of Apollo. The church of S. Sophia, built on the site of an ancient temple of Wisdom, was subsequently dedicated to 'the Holy Eternal Wisdom' by Justinian. In the court called the Forum Augusteum, one side of which was formed by the palace and the other by the church, stood the Milliarium Aureum, not, as at Rome, a gilt marble pillar, but a spacious edifice, the centre from which all the roads of the empire were measured and on the walls of which the distances to all the chief places were inscribed.... In the new reunited empire quadruple division was maintained, *the* [pg 467]*empire being divided into four parts*, each forming a prætorian prefecture under a prætorian prefect, who, being the lieutenant of the emperor, ruled over the governors and people of the province with absolute power. The four prefectures were subdivided into thirteen dioceses, each governed by a vice-prefect named vicarius, the total number of dioceses being fifty-two.”

This system of numeration is of particular interest as it is not only identical with the system of a modern pack of cards, the origin of which is unknown, but is also the same as the Mexican year cycle (see p. 297). Vestiges of sevenfold organization are traceable in the appointment by Constantine, of “seven ministers of the palace” who exercised “sacred” functions about the person of the emperor, and the division of all Gaul into seven provinces placed under the governorship of the Vicar of the Seven Provinces. In conclusion I venture to point out that the four-storied amphitheatre of Vespasian (A.D. 71), the Pantheon of Agrippa (A.D. 23) and the Mausoleum of Hadrian (A.D. 138) appear to have a cosmical character, the first having been planned to hold the entire

population of Rome, around a central space in which, originally, the circling chariot simulated the circuit of the celestial “plaustrum” or “carro” = chariot, the Latin name given to Ursa Major.

While, on public festivals, the amphitheatre must have appeared as a synopsis of the whole empire and may also have been originally used for nocturnal, religious or political assemblages, the great Pantheon enclosing the images of twelve deities, may well have been a conscious attempt to represent the all-embracing Cosmos of Egyptian and Greek philosophy, the framed view of the heaven, seen through the central opening in the dome, being the symbol of the “hidden and invisible god,” of the initiated. To Hadrian, who visited Egypt twice and was undoubtedly acquainted with the idea of Plato's Cosmos or Theos, the idea of building a great circular structure in the centre of which he would be laid to rest, would naturally have suggested itself. Passing from a consideration of the buildings which, with the pyramids, appear to be among the grandest exponents of natural philosophy and religion ever reared by the hand of man, and clearly appear to have been planned under the direct influence of Egyptian and Greek philosophy, let us briefly glance at the mode in which the identical fundamental scheme was perpetuated among some northern peoples.

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ANCIENT IRELAND, BRITAIN AND WALES.

It is a remarkable fact that, in ancient Ireland, we find distinct traces of a state, founded on the same crystallized artificial system that has been found at the basis of the most ancient civilizations of the world. “There is really no authentic history of Ireland before the introduction of Christianity into the country, but there are some genuine traditions which appear based upon truth, because they accord with and explain the peculiar customs which were found to prevail in the island at the time of the English invasion. These traditions declare, that the original Celtic

inhabitants were subdued by an Asiatic colony, or at least by the descendants of some Eastern people at a very remote period; they aver that the conquerors were as inferior to the original inhabitants in numbers as they were superior in military discipline and the arts of social life; they describe the conquest as a work of time and trouble and assert that, after its completion, an hereditary monarchy and hereditary aristocracy were for the first time established in Ireland...."

"At some unknown period Ireland was divided into five kingdoms, Ulster, Leinster, Connaught, Munster and Meath ... the latter being the property of the paramount sovereign ..." (W. C. Taylor, History of Ireland, 1837).

John O'Neil cites "the very oldest Irish books, according to which two brothers, the leaders of the Milesian colonization, divided Ireland into Northern and Southern kingdom." Elsewhere he relates how a prince of the north had been united in marriage to the princess of the south and that "the mythical Niall-Navi-giallach of the nine treasures had had a Northern king for father and a Southern princess for mother." Besides this subdivision which strikingly recalls the ancient Egyptian, O'Neil brings out the remarkable fact that definite positions in relation to each other and the cardinal points were assigned to the five Irish kings and tells us that "we have a fuller and later division when, in the central hall, the miodh-chuarta of Tara, the king of Erinn sat in the centre, with his face to the East, the king of Ulster being at his North, the king of Munster at his South, while the king of Leinster sat opposite to him and the king of Connaught behind him" (*op. cit.* I, 463).

I refer the reader to his extremely interesting comparison (I, p. 369) of ancient Ireland being "an Irish instance of a Chinese [pg 469] 'Middle Kingdom,'" and to the data given in connection with the great hall of Tara, which was called Meath or Mid-court, Miodchuarta (pronounced Micôrta), and the Northern hill of Miodhchaoinn (or

Midkena), guarded by Miodhchaoinn and his three sons, the guardians of the hill being thus four in all. O'Neil also refers to “the great idol or castrum of Kilair ... which was surrounded by twelve smaller ones and was called the stone and umbilicus of Hibernia and, as if placed in the midst and middle of the land, ‘medio et meditullio’....” “Meath itself, where this Kilair navel stood, was anciently the central one of the five divisions of Ireland and is called Media by Giraldus Cambrensis, ... and connected with the words medi-tullium and medi-tullus.” The legend states that “the castrum of Kilair and the stones around it were transported by Merlin to Stonehenge and ‘set up in the same order.’ ”[130] “At Mag Slecht was the chief idol of Ireland, called Cenn Craich (Mound-chief) covered with gold and silver, and twelve other idols about it, covered with brass” (O'Neil, p. 273).

“The five Irish kingdoms were again subdivided into several principalities inhabited by distinct ‘septs,’ each ruled by its own carfinny or chieftain. The obedience of these local rulers or toparchs to the provincial sovereign was regulated, like his to the general monarch, by the powers that he possessed for enforcing authority.... The succession to every degree of sovereignty was regulated by the law of tanistry, which limited heredity right to the family but not to the individual.... Each district was deemed the common property of the entire sept; but the distribution of the several shares was entrusted to the toparch.... The lower orders were divided into freemen and hetages, or as they were called by the Normans, villanis. The former had the privilege of choosing their tribe; the latter were bound to the soil and transferred with it in any grant or deed of sale.”

Ruined groups of buildings, consisting of seven sanctuaries or churches, situated around a round, high tower, usually with four windows near the top, opening to the cardinal points, exist in various parts of Ireland, the Seven Churches in County Wicklow being the most famous example. The cosmical character of the [pg 470]

round towers has been set forth by John O'Neil, to whose work I refer the reader. According to my views the groups testify to the establishment, at one time, of several septarchies in Ireland, the geographical centres of which, as in Assyria and elsewhere, were marked in this case by the cosmical round tower, figuring the axis or spindle, around which each sept built its council house, for religious and political assemblies.[131] In connection with such it is interesting to read what Cæsar says of the priests and judges of Gaul, which was organized into seven provinces, as late as at the time of Constantine: "These Druids held a meeting at a certain time of the year in a consecrated place in the country of the Carnutes [modern Chartres] which country is considered to be in the centre of all Gaul." It is well known that anterior to the Roman Conquest there existed in Britain a long-established, seven-fold state, governed by seven kings, compared by John Speed (1630) to seven crowned pillars.

The kingdom of Mercia included the counties in the centre of the kingdom and is said to have been founded by Crida or Creoda. The central and chief ruler of Britain was styled Bretwalda. It is well known that Stonehenge, which is associated in folk-lore with the number seven, is situated in the heart of the plain region of England and is supposed to have been the seat of central religion and government.[132]

It is moreover acknowledged by Knight that the ancient Britons were a people who evidently had some great principle of association in their religion as in their industry. The familiar fact, that at one period the ancient Kent, Cantium, was governed by four kings, also styled "the four princes of Cantii," furnishes an indication that quadruplicate division was also known to the ancient Britons.

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A few instructive facts concerning Welsh Druidism may be appropriately cited here.

Morien has pointed out that the Druidic Celi Ced corresponds to Amen-Ra, the Egyptian Hidden Sun. According to Welsh system the universe was born of Celi-Ced, a dual power, Celi being the masculine and Ced the feminine principle. Ceridwen is termed the Welsh Isis, and her name translated as "the producing woman." Celi is invariably represented as *hidden*, the three Hus representing him in manifestation.

"The three Hus are: Hu cylch y Cengant = the Hu of the circle of infinitude; Hu cylch y Sidydd = the Hu of the circle of the zodiac and Hu yn Nghnawd = Hu incarnate. The latter was incarnate in the Arch Druid. He, standing in the middle of the Gorsedd circle, where the triple life lines met, implied by his action that the three emanations which had their root in the dual Ced-Celi, focussed themselves in him. He stood facing the east where the sun rises" (*cf.* the ceremonial position assumed by the king of Erin in council and that of the Roman augur on drawing his templum). "The name for the physical sun was Huan, translated as 'the abode of divinity.'" "The Druidic bards of N. Wales worshipped Beli."[133]

In Welsh legend a god named Peredur Paladye Hir (of the long spear or pal) is associated with his brother, both sons of Eliffer, one of the *thirteen princes of the north*. Peredur is one of seven brothers; there were seven profound mysteries of Druidism, *i. e.* seven divisions of the reverberations of the Word, emanating from Ced, and the seven Tattaras or seven rays.

SCANDINAVIA.

According to the Icelandic historian Snorri Sturlesson, whose opinion was the re-echo of ancient traditional beliefs, Odin and his eight sons and four companions, twelve in all, were earthly kings and priests of a sacerdotal caste, who had emigrated from Asia—perhaps from Troy—and who conquered and ruled over various parts of Scandinavia and Northern Germany where, after their death, they were regarded by the people as deities

(Chambers' Encyclopædia).

O'Neil states “that Odin was named Mith-Odinn (Mid-Odin?) [pg 472] by Saxo Grammaticus,” and quotes the following: “Odinn died in his bed, in Sweden, and when he was near his death he made himself be marked with the point of a spear and said he was going to Godheim” (Ingliga Saga). “The twelve *godes* or diar or drotnar of Odin were obviously cognate to our *god* as a name of a deity. They (or the priests who represented them) directed sacrifices and judged the people, and all the people served and obeyed them” (O'Neil I, p. 76).

A strange reality is given to Odin and his twelve “godes,” when it is realized that at Mora, near Upsala, Sweden, there exists the ancient stone throne on which the ancient kings of Sweden were crowned and this central stone is surrounded by twelve lesser stones, just as the Irish “Mound-chief” was surrounded by twelve idols.

While the above facts suffice to indicate that, in remotest antiquity, the government of the state was vested in one supreme and twelve minor chiefs, the following brief extracts from the Eddas reveal the cosmical beliefs of the Norsemen: “In the cold north existed Niflheim in the middle of which was a well from which sprang twelve rivers. In the south existed the warm Muspelheim. There was a contention between both of these worlds.... The union of heat and cold produced Oergelmer or Chaos, and the first human being, Ymir. The revolving eye of the Norse world-millstone was directly above Oergelmer and through it the waters flowed to and from the great fountain of the Universe waters.” Ymir drew his nourishment from four streams of milk proceeding from the mythical cow Aedhumla. Subsequently he was slain by three divine brothers who carried his body to the *middle* of Ginnungagap, and formed from it the earth and the heavens ... of his skull they formed the heavens, at each of the four corners of which stood a dwarf, viz: Austri at the East, Vestri at the west, Northri at the north

and Suthri at the south.... When heaven and earth were formed, the chief gods or Oesir, of whom there were twelve, met in the Centre of the world and built Midgardr or Asgard, the yard, city or stronghold of the Middle and of the Asen = the gods. It was situated on the Himinbiorg, or Hill of Heaven, on the summit of which was the ash-tree, Yggdrasil, whose branches spread over the whole world and tower over the heavens.

The following is from the prose Edda: "Then the sons of [pg 473] Bõr built in the middle of the universe the city called Asgard, where dwell the gods and their kindred, and *from that abode work out so many wondrous things both on earth and in the heavens above it.* There is in that city a place called Hlidskjalf, and when Odin is seated there upon his lofty throne, he sees over the whole world."

In the Eddas we find evidences that while Odin or All-fader was the ruler of heaven, his powerful son Thor was "the ruler of Thrudheim and drove through the world in a chariot and became the supreme god."

The following facts, taken from Mr. Allen's "Star-names," established the association of Thor with Polaris and the Ursæ. "In ancient times the northern nations termed Ursa Major 'the wagon of Odin, Woden or Wuotan, the father of Thor.'[134] The Danes, Swedes and Icelanders also knew it as Stori Vagn, the Great Wagon and as Karl's Vagn; Karl being Thor, their chief god of whom the old Swedish Rhyme Chronicle of Upsala says '... The god Thor was the highest of them. He sat naked as a child, seven stars in his hand and Charles' Wain.' "

The "throne of Thor" or "Smaller Chariot," was the name given to Polaris (Ursa Minor) by the early Danes and Icelanders and their descendants still call it the "Litli Vagn," the little wagon. The Finns, apparently alone among the northern nations of Europe in this conception, named Ursa Minor, Vähä Otawa, the Little Bear. They, however, termed Polaris, Taehti, "the star at the top of the heavenly mountain."

It is striking how clearly, in Scandinavia, the Middle is associated with a sacred mountain and tree, the world axis, a heavenly city, an enthroned central god, and with Polaris, Ursa Major and the idea of eternal circumpolar rotation expressed by the wain eternally wheeled around the throne of Thor. To any one imbued with the ideas set forth above, the signification of the Scandinavian, Druidic, New Year festival, the name for which was “the wheel” (yule, yeol, yeul, hjol, hiugl, hjul), must clearly appear as the date on which the complete circuit of the Ursæ around the [pg 474] pole, was ceremonially registered. It is obvious that this could best be expressed by a circle being drawn around the swastika or cross, to which the fourth arm would be added, completing thus the registration of the four seasons, marked by the opposite positions assumed by the Ursæ at nightfall. It is well known that the wheel-cross, swastika, triskeles and S-figure constitute, with the winding serpent and the tau, named Thor's hammer, the main symbols of ancient Scandinavia (see fig. 13, p. 29 and fig. 38, p. 119). I venture to point out how obviously Thor's hammer symbolizes the union of the Above and Below, the heaven represented by the horizontal line resting on the perpendicular support, symbolizing the sacred pole, column, mountain and tree intimately associated with Polaris, the world axis.

As a suggestion only, I venture to point out how, the old Norse name for star being tjara and for tree = tar, the rôle of the tree in Druidic cult would be fully accounted for, the initiated only being aware that it was but a rebus symbol of the secret or hidden star-god Polaris.

It can readily be seen how natural or artificial elevations and erected stones, trees, staffs or poles must have been used as means of determining the positions of the Ursæ at the public celebration of the Yule festival and that the ceremony of kindling of new fire was observed at the time when the “wheel” was supposed to begin its new annual revolution.

Reflection clearly shows that pole-star worship must have taken a stronger hold upon the ancient inhabitants of Scandinavia and their descendants, the seafaring Vikings, than upon any other nation. We are compelled to admit that the recognition that Polaris formed the centre of axial rotation and the middle of the sky, would have impressed itself most profoundly upon observers stationed in the latitude where winter darkness prevailed and the pole-star appeared to be nearly overhead. Under such conditions the association of the opposite positions of the Septentriones with directions in space, *i. e.*, the cardinal points, would be most striking.

What is more: the re-appearance of the sun, after the long darkness of a northern winter, must have established the idea of a fixed relationship between certain positions of Ursa Major and the solstitial position of the sun. It may indeed be said that the observation of the solstices and equinoxes was forced upon the inhabitants of the north as nowhere else on the globe and that it [pg 475] may perhaps be therefore designated as the birthplace of primitive astronomy.

The origin of the idea of an all-pervading duality and the chains of association which linked Light and the Sun to air and water, and to the male element, whilst Darkness and the Nocturnal Heaven became connected with earth, fire and woman, are clearly accounted for in the circumpolar regions only, where the year divides itself into a period of light in which independent and roaming out-door life was possible, and a period of darkness during which family life, in underground fire-lit dwellings, was compulsory. If fathomed, the mind of the Eskimo to-day may possibly reveal the germs of identical associations of ideas, for it would seem as though existence in the polar regions would infallibly stamp them indelibly upon the consciousness of all living creatures, until they unconsciously pervaded their entire being and even affected the structural organization of the human brain.[135]

The tendency to believe that the human race must have spent its infancy near the pole and received there an intellectual stamp, which could not have been conveyed to it so clearly in any other latitude, is undoubtedly encouraged by the opinion of various authorities, that “all forms of life must have originated at the pole, this having been the first habitable portion of our world.” This view is exhaustively treated in William Fairfield Warren's “Paradise Found, the cradle of the human race at the North Pole” (Boston, 1885), to which I refer the reader and which contains much valuable data which I would have incorporated in the present investigation had I had earlier access to the volume. It would seem as though Warren's conclusions were in perfect accord with the conclusions arrived at by some leading palæontologists, geologists and botanists, concerning the distribution of life on the globe. These are conveniently summarized in the article on “Distribution” in the Encyclopædia Britannica, from which the following detached excerpts are made for the benefit of the reader.

“The general result arrived at is that the great northern continents [pg 476] represent the original seat of mammalian life and the regions of its highest development.... The tertiary fauna of North America, compared with that of Europe, exhibits proofs of a former communication between the two northern continents both in the North Atlantic and North Pacific, but always, probably, in rather high latitudes. This is indicated both by the groups which appear to have originated in one continent and then to have passed across to the other and also by the entire absence from America of many important groups which abounded in Europe (and *vice versa*) indicating that the communication between the two hemispheres was always imperfect and of limited duration.... On the other hand, the marked continuity of the Northern Flora (with only a gradual east and west change in the arctic regions, but with an increased divergency southwards) requires it to be treated as a whole, although it has long been divided into that of the

old and new world by the severance of North America from Northern Asia and by the barrier to an interchange of vegetation in the upheaval of the Rocky Mountain range. The old and new world divisions of the flora which, no doubt, began to diverge from the mere influence of distance, have now had that divergence immensely increased by isolation.... Large American genera (of the intermediate flora) have sent off offsets into Eastern Asia which, gradually diminishing in number of species and sometimes slightly modifying their character, have spread over the whole of Asia and invaded almost every part of Europe.... With regard to the arctic alpine flora, Hooker found that, estimating the whole arctic flora at 762 species, arctic East America possessed 379 of which 269 are common to Scandinavia. Of the whole flora 616 species are found in arctic Europe and of these 586 are Scandinavian and this leads Hooker to the striking observation that 'the Scandinavian flora is present in every latitude of the globe and is the only one that is so.' According to Bentham, Scandinavia, which would, according to older rules, have been termed the centre of creation for the arctic regions, may now be termed the chief centre of preservation within the arctic circle owing, perhaps, to its more broken conformation and partly to that warmer climate ... which was, during the glacial period a means of preservation of some colder species which were everywhere expelled or destroyed.... We may infer that, towards the close of the Tertiary epoch, the continuous circumpolar land was covered with [pg 477] a vegetation also largely composed of identical plants, but adapted to a warmer climate. As the climate became less warm there would commence a migration southwards which would result in the modified descendants of these plants being now blended with the vegetation of central Europe and the United States. As the glacial period gradually advanced, the tropical plants will have retreated from both sides towards the equator followed in the rear by the temperate productions and these by the arctic. When the climate of the earth again ameliorated, the migration took place in a reverse

direction and in this way mountain ranges became the havens of refuge for the fragments of the original arctic flora which were exterminated on the lowlands. An indication of the great antiquity of the arctic alpine flora is afforded by the fact of its absence in the comparatively modern volcanic mountains of France.... If it be granted that the polar area was once occupied by the Scandinavian flora and that the cold of the glacial epoch did drive this vegetation downwards ... in arctic America ... where there was a free southern extension and dilatation of land for the same Scandinavian plants to occupy, these would multiply enormously in individuals...."

The following remarkable results of recent botanical research will be found to be of profound interest to investigators and to support the foregoing conclusions. Amongst the many important discoveries of hitherto undescribed species of plants, made by the distinguished botanists Mr. Stephen Sommier and Dr. Emile Levier during their expedition in the Caucasus mountains, in 1890, was that of a species of fungus named *Exobasidium discoideum* Ell., which was found growing on the *Rhododendron flaro* L. This fungus was submitted to Prof. P. Magnus of Berlin, who pronounced it to be the identical Exobasidium which has been found growing on the *Azalea viscosa* L. in New Jersey, U. S. A. The following is the authoritative statement of Prof. P. Magnus which appears in Messrs. S. Sommier and E. Levier's Enumeratorio plantarum caucas: acta horti petropolitani, vol. XVI. St. Petersburg, 1899.

"The occurrence of the identical species of fungus on two closely related plants, which respectively grow in the Caucasus and in North America and are missing in intermediate countries, deserves our deepest interest.... These plants are relics of the Tertiary period, during which North America and Europe still [pg 478] formed a continuous floral area. While the plants, on which the fungus grew, differentiated into two closely related

species, in two at present widely separated but formerly connected radii of distribution, the parasitical Exobasidium remained outwardly unaltered. This is exactly like the case of another fungus, *Uromyces glycyrrhizæ*, which I have described and explained in the 'Berichten der Deutschen Botanischen Gesellschaft' (Bd. VII, 1890, S. 377-384). *Exobasidium disc.* is also a parasitical fungus which has been growing on the parent form of *Rhododendron viscosum* and *Rhododendron flavum* ever since that period when North America and Europe were continuous and possessed the same flora."

I am also indebted to Professor Magnus and to Dr. Levier for the following names of closely allied species of plants which are found in America and Asia only, it being particularly noticeable that it is in Asia Minor and the Caucasus mountains that the relatives of the American species are most frequently met with.

Platanus occidentalis: North America.
Platanus orientalis: Asia Minor.
Liquidambar styraciflua: North America.
Liquidambar styraciflua: Asia.
Rhododendron viscosum: North America.
Rhododendron flavum: Caucasus Mts.
Rhododendron maximum: North America.
Rhododendron ponticum: Causasus Mts.

Professor Magnus has, moreover, recently pointed out that the fungus Uropyxis, which is a widespread American species and grows in Mexico, has a representative in Manchuria. In his monograph on Uropyxis, Professor Magnus enumerates further species of fungi which occur in America and Asia only and are missing in other portions of the world (P. Magnus, Berichten der Deutschen Botanischen Gesellschaft, Jahrgang 1899. Band XVII, Heft 3).

Referring the reader to Professor Edward S. Morse's trite article, Was Middle America peopled from Asia? (Appleton's Popular Science Monthly, November, 1898), I

cite, from this, the following authoritative statements: “From the naturalist's standpoint the avenues have been quite as open for the circumpolar distribution of man as they have been for the circumpolar distribution of other animals and plants, down to the minutest land snail and low fungus. The ethnic resemblances supposed to exist between the peoples of [pg 479] the two sides of the Pacific may be the result of an ancient distribution around the northern regions of the globe.”

The very remarkable survival of certain plants and fungi, dating from the Tertiary period, in two such widely sundered countries as Asia Minor and North America, certainly finds a curious and striking parallel in the analogy of the cosmical ideas and social organization of Babylonia and Assyria with those of Mexico.

What is more: A cosmical scheme, attributable to a prolonged observation of natural celestial phenomena, such as could best have been carried on in circumpolar regions, has been shown to be as widespread as the Scandinavian flora which “is present in every latitude and is the only one that is so.”

Many of my readers will doubtless be inclined to explain the identity of cosmical and religious conceptions, social organization, and architectural plans shown to have existed in the past between the inhabitants of both hemispheres, as the result of independent evolution, dating from the period when primitive man, emerging from savagery, was driven southward from circumpolar regions, carrying with him a set of indelible impressions which, under the influence of constant pole-star worship, sooner or later developed and brought forth identical or analogous results.

Those who hold this view may perhaps go so far as to consider the possibility that, before drifting asunder, the human race had already discovered, for instance, the art of fire-making and of working in stone, had adopted the sign of the cross as a year-register, and evolved an archaic

form of social organization. To many this view may furnish a satisfactory explanation of the universal spread of identical ideas and the differentiation of their subsequently independent evolution.

On the other hand, another class of readers may prefer to think that, while both hemispheres may have originally been populated by branches of the same race, at an extremely low stage of intellectual development, civilization and a plan of social organization may have developed and been formulated sooner in one locality than in another, owing to more favorable conditions and thence have been spread to both continents by a race, more intelligent and enterprising than others, who became the intermediaries of ancient civilization.

The great problem of the origin of American peoples lies far beyond the scope of the present work and its final solution can [pg 480] only be obtained at some future day by the joint coöperation of Americanists and Orientalists. On the other hand certain incontrovertible facts which throw light upon the question of prehistoric contact have been coming under my observation during my prolonged course of study and the presentation of these may advance knowledge by acting as a stimulus to discussion, inquiry and research by learned specialists.

For ready reference I submit the following tabulated record of the widely sundered countries in which are found, applied to the governmental scheme, the same cosmical divisions, respectively consisting of four, seven and thirteen parts, the group being invariably associated with the idea of an all-embracing One, constituting the Four in One, Seven in One and Thirteen in One. It is superfluous to add that, in each country enumerated, the existence of more or less distinct traces of an ancient pole-star worship and the cult of the sacred Middle, the Above and Below and Four Quarters, *i. e.*, the four, seven and thirteen directions in space, have been recorded in the preceding pages. Important additional facts, acquired

by reference to Hewitt's Ruling Races of Prehistoric Times, to which my attention was directed by Mr. Stansbury Hagar, and to other valuable works, will be found included in the following summary.

It would be of utmost assistance to me in my future researches and I would regard it as a personal favor if specialists would draw my attention to any deficiencies they may detect, and inform me of the latest results of their individual investigations bearing upon the subjects under consideration.

INDIA.

Seven zones, seven directions in space, seven sages.

“The conception of the confederated kingdom formed of six dependent and allied states surrounding the seventh ruling state in the centre.”... “It is this conception which is worked out in the six kingdoms surrounding the central kingdom of Jambudvipa, into which they divided India. This form of kingdom still survives in those which form the tributary states of Chota Nagpore, for in all of these the central province is ruled by the king and those surrounding it by his subordinate chiefs ...”[136] (Hewitt, Ruling Races of Prehistoric Times, p. 256).

[pg 481]
Four lakes, four rivers, four cosmical divisions, four guardians, p. 320.

“In the Gond ‘Song of Lingal,’ it is related how, Lingal, having been slain by the confederacy [of six kingdoms surrounding seventh], came to life again, and with four new-born Gonds, founded a new race of Gonds; taught them to build houses and to grow millets.... He divided the people into *four tribes*.... With these he united the four tribes descended from the Gonds he had brought down in his first avatar.... These formed the eight united races of the tortoise-earth.... Lingal placed among them priests ... who married the new-comers to the daughters of the

previous immigrants.... This ... marks the first stage of the union of the Kushikas and the Maghadas, the latter being the race who worshipped the mother-Maga as the sacred alligator (Hewitt).

"According to the Mahābhārata the two races of Kushikas and Maghadas were united under one king.... This land was called by Hindu geographers Saka-dvipa, said in the Mataya Purana to be the land of the mountain whence Indra gets the rain;" that is of the mountain called Khar-sah-kurra, Ushidhan and Savkanta. "This mountain stood as the meeting point of the two confederacies [pg 482] of the patriarchal tribes and the matriarchal races.... Each confederacy is formed by six kingdoms surrounding a seventh or ruling kingdom in the centre.... This, in the Iranian federation, is Khavaniras or Huaniratha and in India, Jambu-dvipa, the land of the Jambu tree."

Hewitt publishes an interesting drawing (reproduced as fig. 73, *c*), formed "by the union of the four triangles representing the Southeastern and Northwestern races, who all looked on the mother mountain of the East, whence Indra gets the rain, as their national birthplace, where they became united as the Kushite race, the confederation of civilized man. It represents the Greek cross and the double dorje or thunderbolt of Vishnu and Indra and also a map of the Indian races, as distributed at the time of the union. It also forms, with spaces left open for the parent rivers, ... an octahedron or eight-sided figure ... and the angles of the tribal angles form the swastika ... the sign of the rain-god ..., the great Sar of the Phœnicians...." Referring the reader to Hewitt's interesting discussion of this figure with which he associates the origin of the swastika, I point out a fact he barely notices, namely that the figure coincides with the description of Mt. Meru, associated with four lakes, four rivers, four mythical animals and four guardians (p. 320). It is in connection with the cosmical Middle Mountain that the foundation of an earthly kingdom on the same plan becomes significant and the distribution of races

figured by Mr. Hewitt assumes utmost importance. The representation of the four races by “tribal triangles,” is of special interest when collated with the Egyptian sign for city or state and the pyramid, the building of which I have several times alluded to as an event facilitating, symbolizing and commemorating the foundation of a quadruplicate state (pp. 220 and 221).

ARABIA.

“In the land of Arabia, of the irrigating and building Minyans and star-worshipping Sabæans, the land of the Queen of Sheba, or the number seven (sheba) ... a fresh confederacy was formed, to rival that of the Kushite mountain of the East ...” (Hewitt, p. 291).

It is significant that among the Sabæans the seven-day period prevailed.

[pg 483]
ASSYRIA.

Seven directions of heaven and earth, seven territorial districts, seven mountains, seven kings, seven-staged towers, seven year and day periods, etc., pp. 328, 348 and 358.

Four-god cities, square cities, square four-storied towers, four cities, four regions or provinces, four-fold power embodied in king wearing cross, tetrarchies (?).

EGYPT.

Seven classes of people, seven districts, seven-day period, pp. 300 and 375.[137]

Quadruplicate division of capital and state, four fields of heaven, p. 372.

Sacerdotal group consisting of 12 + 1 = 13 individuals, p. 437.

Division of the country, at one time, into twelve parts (Ast).

CHINA.

Seven Manchurian tribes, p. 302.

Four provinces, four mountains, four seas, p. 286; four classes of seven each, p. 292.

At the summit of the present administration in Pekin, Four Grand Secretaries, two of whom are Manchus and two Chinese.[138]

Twelve districts, p. 292.

ANCIENT JAPAN.

The “Seven divine generations,” each consisting of a god and goddess.

Four classes of people, $2 \times 4 = 8$ holy quarters, eight great islands.

Imperial council of twelve divided into the higher council of five called Golosew = "Imperial Old Men" and the lower council of [pg 484] seven members termed Waka Tosiyori = "Junior Old Men" (Chambers' Encyclopædia). The imperial council, with the emperor, thus constituted the sacred thirteen.

PERSIA.

Seven divisions of Cosmos, seven regions, seven spirits personifying celestial bodies and moral qualities.

Ancient confederacy of Iran consisted of six kingdoms grouped around the central royal province, "situated under the pole-star," and called Kwan-iras or Hvan-iratha, ruled by Susi-nag, the original father-god of the model state identified with the pole-star, Draconis, the serpent (Hewitt, *op. cit.* p. 253), see also Appendix III, list II.

Four-fold rule embodied in king, p. 325. Darius distributed Persian empire into $4 \times 5 = 20$ satrapies, each including a certain continuous territory (Grote).

GREECE.

Tenos divided into seven quarters, seven divisions of state.[139]

[pg 485]
Four tribes,[140] four castes, territorial division of Attica into four parts, institution of tetrarchies. Thessaly anciently divided into four tetrarchies. Institution (between 600-560 B.C.) of cycle or period, marked by the

four sacred Olympic games, one of which took place in one of four cities each year in rotation. Pisistratus added the quadrennial or greater Panathenæa to the ancient annual and lesser Panathenæa (Grote, History of Greece, vol. 4).

[pg 486]
Twelve tribes formed by Cecrops—represented by twelve chiefs, + Cecrops = thirteen.

It is most interesting to find this division adopted in Plato's de Legibus, in which it is imagined that three elderly statesmen come together, belonging respectively to Athens, Crete and Lacedæmon, to discuss the reëstablishment of the depopulated city of Magnesia in Crete. Aristotle has insinuated that the scheme proposed by Plato was not original and had been actually realized at Lacedæmon. Mr. George Burger, the able translator of Bohn's edition of Plato's Works, in his introduction to vol. V, remarks that, if that were the case, Plato would never have wasted his time in writing two elaborate treatises on matters already well known, when it [pg 487] would have been sufficient to point out ... the institutions of Lycurgus as the pattern, if not of a faultless government, at least of one, that approached the nearest to perfection. Plato might have replied to the charge made by Aristotle by saying that his notions were all the better for not being original, for it was thus shown that, as some of them were practicable, since they had already been put into practice —the rest, which were a reform rather of existing institutions than the construction of a code perfectly novel, would be equally practicable if they were submitted to the same test. In his Protagoras, Plato distinctly states that in Crete and Lacedæmon a most beautiful philosophy was to be found, which had been handed down from ancient times.... Let us now examine the plan discussed by the three statesmen and submitted [pg 488] to them by the anonymous Athenian who, according to Cicero, Plutarch and Boeckh, was Plato himself.

In the case of “the Magnesians, whom a god is again raising up and settling into a colony ... a divine polity....” Plato says: ... “It is meet, in the first place, to build the city as much as possible in the middle of the country.... After this to divide it into twelve parts[141] and placing first the temple of Hestia, and Zeus and Athene, to call it the Acropolis and to throw around a circular enclosure and from it to cut the city and all the country into twelve parts. But the twelve parts ought to be equalized ... and the allotments to be five thousand and forty.... After this to assign the twelve allotments to the twelve gods and to call them by their names and to consecrate to each the portion attained by lot and to call it a phyle; and again to divide the twelve sections of the city in the same manner as they divided the rest of the country, and that each should possess two habitations, one near the centre and the other near the extremity, and thus let the method end ... (B. V, C. 14).... We ought, in the first place, to resume the number five thousand and forty because it had and has now convenient distributions, both the whole number and that which was assigned to the wards, which we laid down as the twelfth part of the whole, being exactly four hundred and twenty. And as the whole number has twelve divisions, so also has that of the wards. Now it is meet to consider each division as a sacred gift of a deity through its *following both the months and revolutions of the universe*. (By this is meant, says Ast, the twelve signs of the zodiac.) *Hence that which is inherent leads every state, making them holy*.... Some persons indeed have made a more correct distribution than others, and with [pg 489] better fortune have dedicated the distribution to the gods. But we now assert that the number five thousand and forty has been chosen most correctly, as it has all divisions as far as twelve, beginning from one, except that by eleven; ... let us distribute this number; and dedicating to a god ... each portion, and giving the altars ... let us institute monthly two meetings relating to sacrifices ... twelve according to the divisions of the wards and twelve to that of the city ... for the sake of every kind of intercourse.”

It should be noted here that, as in his Republic, Plato provides his ideal state with female as well as male guardians, and with priestesses as well as priests, whose duty it was to fulfil sacerdotal functions. Special attention is drawn to this point, as in practice, it naturally signifies a dual government, such as I have traced in ancient Egypt, Babylonia-Assyria, and also in Mexico and Peru.

"As regards the number of ... festivals ... let there be three hundred and sixty-five ... so that some one of the magistrates may always sacrifice ... there are to be twelve festivals to the twelve gods from whom each tribe has its name ... and twelve guardians of the law.... There ought to be twelve hamlets, one in the middle of each twelfth part, and in each hamlet to be selected first, a market place and temples ... prepare all the rest of the country by it into thirteen parts for the handicraftsmen and to cause one portion of these to reside in the city by distributing this portion among the twelve parts of the whole city ... to have other persons distributed out of the city, in a circle around it."

The portions of Plato's work dealing with the appointment of the governors and guardians of the state and their rotations in office and imposed tours of inspection, are of such particular interest in connection with the present comparative research, that I am impelled to quote them here.

"Let each (of the twelve) phyles furnish for the year five Rural Stewards (in all sixty) ... each of whom is to choose twelve young men ... to the latter let there be allotted portions of the country during a month ... so that all of them may have a practical knowledge of every part of the country.... But let the governorship and guardianship continue to the guards and governors for two years, and let those who first obtain by lot their [pg 490] respective portions, the guard officers, lead out, *changing the places of the country constantly by going to the place next in order towards the right in a circle, and let the right be that which is*

in the east. But as the years come around, in the second year, in order that the greatest portion of the guards may become acquainted with the country, not only at one season of the year, but that as many as possible may know thoroughly in addition to the country, at the same time what occurs relatively to each spot in the country at each season, let the officers *lead them out again to the left, constantly changing the place until they go through the second year*. In the third year it is meet to choose other rural stewards and guard officers as the five curators of the twelve young men.... There were to be three city stewards, dividing the twelve parts of the city into three ... and five Market-Stewards, to be chosen from ten elected"....[142]

It is deeply interesting to consider from the standpoint of comparative study the principal features of the perfected scheme proposed by Plato, in the fifth century B. C, for the establishment of an ideal colony, which is designated as a "divine polity" or a "holy land." This is especially the case when we see that Plato himself states that it is the conformity of the states to the inherent laws of nature, that confers upon it divinity or holiness. It seems impossible not to recognize that both ideal republics of Plato were intended to be "celestial kingdoms" or "kingdoms of heaven" and that he expounded and doubtlessly perfected, an ancient ideal which had been more or less successfully carried out in different countries during many centuries before his time.

Having studied the proposed scheme for the foundation of a new colony of the Greeks, who proudly maintained that "it was meet that the Greeks should rule barbarians," and pursued a regular [pg 491] system of colonization, let us now obtain an idea of the mode in which Greeks had previously founded colonies by reading the following passage from Grote's History of Greece, vol. IV, chap. XXVII:

"Under reign of Psammetichus, king of Egypt, about the

middle of seventh century B.C., Grecian mercenaries were first established in Egypt and Grecian traders admitted ... into the Nile.[143] The opening of this new market emboldened them to traverse the direct sea which separates Krête from Egypt—a dangerous voyage with vessels which rarely ventured to lose sight of land—and seems to have first made them acquainted with the neighboring coast of Libya ... hence arose the foundation of the important colony called Kyrênê" ... about 630 B.C.

"Thêra was the mother-city, herself a colony from Lacedæmon ... political dissension among its inhabitants ... bad seasons, distress and over-population led to the emigration that founded Kyrênê.... The oekist Battus was selected and consecrated to work of founding the colony.... *From the seven districts into which Thêra was divided, emigrants were drafted for the colony, one brother being singled out by lot from the different families*.... The band which accompanied Battus was generally supplied with provisions for one year and was all conveyed in two pentekonters—armed ships with fifty rowers each. Thus humble was the start of the mighty Kyrênê. After six years residence in one spot they abandoned it and were conducted to a better site by guides, saying: 'Here, men of Hellas, is the place for you to dwell, for here the sky is perforated.' "[144] The small force brought over by [pg 492] Battus was enabled at first to fraternize with the indigenous Libyans,—next, reinforced by additional colonists and availing themselves of the power of native chiefs, to overawe and subjugate them....

"The Theræan colonists seem to have married Libyan wives, whence Herodotus describes the women of Kyrênê and Barka as following, even in his time, religious observances indigenous and not Hellenic. Even the descendants of the primitive oekist Battus were semi-Libyan.... We must bear in mind that the population of the [Græco-Libyan] cities was not pure Greek, but more or less mixed, like that of the colonies in Italy, Sicily or Ionia.... Isokrates praises the well-chosen site of the

colony of Kyrênê because it was planted in the midst of indigenous natives apt for subjection and far distant from any formidable enemies.... We are then to conceive the first Theræan colonists as established in their lofty fortified post Kyrênê, in the centre of Libyan Perioeki, till then strangers to walls, to arts and perhaps even to cultivated land.... To these rude men the Theræans communicated the elements of Hellenism and civilization, not without receiving themselves much that was non-Hellenic in return, and perhaps the reactionary influence of the Libyan element against the Hellenic might have proved the stronger of the two had they not been reinforced by new-comers from Greece.... About 543 B.C. owing to discontent, etc., the regal prerogative of the Battiad line was terminated and a republican government established; [pg 493] the dispossessed prince retaining both the landed domains and various sacerdotal functions which had belonged to his predecessors."

ROME.

Seven hills, seven places of worship, septemvirate, seven ministers, Septizonium, p. 464.

Roman quadrata, Janus quadrifrontis, quadruplicate territorial division carried out. Palestine, for instance, divided into four tetrarchies under Roman rule.

Twelve gods, twelve months, etc.

New Rome divided into four parts, each consisting of thirteen prefectures *i. e.* fifty-two prefectures in all.

GAUL.

Seven provinces.

BRITAIN.

Seven kings = heptarchy.

Four kings of Kent = tetrarchy.

IRELAND.

Seven sanctuaries grouped around central tower.

Four associates of king of Erin.

Group consisting of $12+1=13$ stone figures, p. 469.

SCANDINAVIA.

Four guardians of four quarters.

Thor, supreme divinity, pole-star god, seated and holding "seven stars," the symbol of seven-fold power, in his hand.

Group consisting of royal throne surrounded by 12 stones. Odin associated with twelve "godes," p. 472.

NORTH AMERICA.

Huron confederacy = seven tribes, quadriform city, $2\times4=8$ gentes, p. 198.

ZUNI.

Seven directions in space, seven quarters of city, seven tribes, seven towns.

Four bands of priests, p. 201.

Twelve, *i. e.*, thirteen priesthoods, p. 201.

[pg 494]
MEXICO.

Seven tribes issued from seven caves, seven gods or chiefs, p. 62.

Four quarters of city, represented by four chieftains, four subrulers, four divisions of army, four year signs, four tribes, four tribal trees (fig. 52), four storied pyramids.

Thirteen divisions or parts, p. 181.

Calendar and state organized into $4 \times 13 = 52$ parts.

YUCATAN.

Title of ruler, “the divine Four,” four sub-rulers, four royal brothers, four-year periods, p. 218, four quarters, p. 223, four year signs.

Twelve *i. e.* thirteen priest-rulers of Mayapan, p. 209.

GUATEMALA.

Seven tribes, seven day period, p. 179.

Four nations, four provinces, four capitals, four Tullans, pp. 164, 171.

Thirteen divisions of warriors, p. 179.

PERU.

Empire named “Four in one,” Creator named “Earth, air, fire and water in One,” four provinces, four viceroys.

Twelve *i. e.* thirteen wards in Cuzco, twelve divisions of year, p. 144.

Before commenting upon the above summary, and as its necessary complement, a brief examination must be made of the various modes in which the phenomenon of celestial axial rotation figured in the rituals of primitive people.

OLD WORLD.

The lighting of “sacred fire,” by means of the wooden fire-drill and the wooden socket block, appears as the most ancient and widespread ritualistic performance.

To begin with, the reader is requested to read carefully

the following detached extracts from Hewitt's work:

“In the Rig-Veda the Aryan invaders of Lydia are called the Tritsu, ‘the boring people,’ who used the fire-drill; also Arna, ‘sons [pg 495] of Arani,’ the fire-drill, whose sacred number is four”.... “In India, from time immemorial, by a process like churning, fire has been produced by the Arani, made of the Ashvattha (*Ficus religiosa*) wood, being twirled repeatedly round till the fire is lighted, by a string fixed in the cross-bar at its top,” a method, I may add, which is a later development of the more primitive mode of twirling the fire-drill by hand. “The Kushites ... believed that life was generated by the union of heat with water ... and that heat was, in the astronomical myth, engendered by the revolution of the Great Bear and the connection between it, the vital heat and the creating water is shown in one of its Akkadian names, Bel-a-sar-a, which means ‘the fire god who measures the water yoke’ (R. Brown and Sayce), or, in other words, Bel, the distributor of the water allotted to the earth. From this heavenly cistern and fire-drill, in which marichi, the fire-spark, is hidden, the water of life is distributed.”

Compare the preceding with the following statements: “According to the Arab doctrine of the pole, the seven stars of the Great Bear and the star Canopus [?] formed the fire-drill.” According to Hewitt “... It was the Ashvins, ... the twin brothers of day and night, ... identified with the twin stars in Gemini, who twirled round the fire drill of the northern pole ... or, according to a later hymn, drove through the seas with one of the wheels of their chariot in Ursa Major and one in heaven,—that is, to drive around the pole.” A deeper comprehension seems to be afforded by this association of the Ashvins with the axis, of the significance of the two figures (of a god and his consort) who, in the Sippar tablet, appear to be directing the wheel of Shamash—the world-axis and symbol of quadruplicate terrestrial government (see p. 365). Reference should also be repeated here, to Al-kuth

and Al-fass, the Arabian names for Polaris, respectively signifying the axle and the hole of the axle, also to the pole star of Northern India—Grahadhara,—the “pivot of heaven,” and to the significant fact that in Egyptian hieratic script the word an = the Akkadian and Sumerian word for heaven, and Babylonian-Assyrian word for god, is found rendered by a man “turning around,” an action expressing the verb an.

It is interesting to collate these statements with the descriptions of Dhruva (see p. 448, note 1), the personification of centrifugal power, who, as he turns, causes the heaven to revolve around the fixed centre on which he stands, resting on one foot only, and to [pg 496] note how the two distinct ideas of central stability and rotation influenced the making of pagan divinities. The idea of stability was perpetuated in the house-pole which sustained Aman, the roof of primitive dwellings in the column an, which supported the temple roof and in time was transformed into a hermes, or, in Egypt, into a statue of Amen-ra, and in the mythical mountain of the North, Sama, which supported the heaven (Sama). Dhruva's turning round on one foot, which implies the use of the other, reappears in the Hephaistos of Greek mythology, who was, as Hewitt tells us (p. 504), “the fire-drill and its driver, and was called Amphi-Guēeis, or he who halts on both legs, ... was cast from heaven by Zeus, and was the husband of the fire-socket, the first form of the Greek goddess Aphrodite.”

For information regarding the cult of the fire-socket, the construction of the Hindu fire-altars in the form of a woman, representing “mother-earth” or “the primæval mother,” Aditi, I refer the reader to Hewitt's work, and also to p. 323 of the present publication, where the description of the Jiddah sanctuary proves the existence of the same ancient form of cult in Arabia. Hewitt relates on page 170 that, on the fire-altar, the central fire called Agni jatavedas is kindled when the officiating priest addresses in the words of Rig-Veda III, 29, 4: “We place

thee, O Jatavedas, in the place of Ida (the mountain daughter of Manu) in the navel (nabha) of the altar, to carry our offerings." In Rig-Veda, x, 61, we are also told how Nabha-Nedishtha (that which is nearest to the navel) was born from the union of celestial lightning flash with the earth, and how, on his birth, he claimed to be the supreme god, saying: "This, our navel, is the highest. I am his son.... I am the twice-born son of the law (of nature)...." Hewitt (p. 171) regards, moreover, the image of the goddess of the earth altar found by Schliemann in the second city from the bottom of the six cities, built one over another on the site of Troy, a counterpart of the Hindu fire-altar. It is significant that the Trojan image exhibits a triangle surrounded by seven disks, and containing the swastika, which Hewitt designates as "the holy fire, the sun of the revolving year," a view curiously, though indistinctly, analogous and parallel to that I have formulated in the present research.

"In the Brahmanas the Try-Ambika offering, a very ancient form of the rain festival, is described.... Its sanctity dated from the [pg 497] days of primeval theology, for the offerings were made on a spot outside and *to the north* of the consecrated area, and on one intersected by cross-roads, and thus marked by the cross sacred to the rain-god, which is said to be Rudra's favorite haunts, and the halting place of the Agnis.... Hence the festival is dedicated to Rud-ra, the red (rud) god, the father of the seven Marut stars.... He is called the red god from the spark of fire kindled by him in the fire socket when he was the fire-drill, and from being reddened by the blood of the victim slain in his sacrifices when he was the sacrificial stake to which the annual victims, whose blood fertilized the ground, were bound, and this name was continued to him when he became the red cloud of the thunderstorm which infused the soil of life into the earth by pouring on it the life-giving rain, the blood of the creating god...."

In the Rig-Veda the rain-god is termed Ushana, the "lord

of fire," who is made to exclaim: "It is I who pour down rain for the good of creatures." It was he who was also known as Varuna, the Greek Ourauos, who ... became the god of the dark night.... The union [in India] of the patriarchal worshippers of the Northern father-god, with the matriarchal races of the south was followed by the miners, metal-workers and artisans of the early bronze age, who looked on fire and the life-giving heat as the author of life. These were the people (of Finnic origin) who employed the word ku for god, in Asia Minor became the worshippers of the mother goddess Magha, the socket block from which fire was generated by the fire-drill, and it was they, "the Sons of Magha" that became the Maghi of Persia and the Maghadas of Indian history.

In connection with the union of a northern patriarchal and a southern matriarchal race, an astronomical myth deserves particular attention, as it commemorates the combination of a feminine cult of the Pleiades, the "spinning stars," with a masculine cult of Ursa Major. According to this myth, related by Hewitt, the "Spinners" = Krittakas (from krit, to spin) were "the mother-stars of the earth," who were married to the seven stars of the Great "Bear, the father-stars of the North."[145] Remarking how [pg 498] curiously the assignment of the north to the male and the south to the female element coincides with what has been noted in Egypt, I note here the interesting detail recorded by Hewitt (p. 379) that to this day the Hindu bride and bridegroom respectively pay reverence to the Pleiades and Ursa Major, before worshipping the pole-star, "the spotted bull," on entering their house. It would seem as though the fulfilment of this ritual might limit the Hindu marriage season to some particular time of the year, marked by the position of the Pleiades; in which connection it is interesting to remember that, in Mexico, the culmination of the Pleiades at midnight marked the New Year festival, when sacred fire was rekindled and the union of Heaven and Earth took place. On pp. 130-132 of Hewitt's work, vol. I, the

reader will find instructive data regarding Pleiades festivals.

The preceding details appear to show that whereas a northern patriarchal race would naturally symbolize axial rotation by the fire-drill, a southern matriarchal race would adopt the spindle for the same purpose. Such a ritualistic use of the spindle would undoubtedly afford a very simple explanation for the presence of cross-symbols and swastikas and other designs of religious significance upon the terra-cotta spinning whorls found in such quantities in Troy, for instance, and the cited allusion on one of these, to the pole-star god, Tur, corroborates this view.[146]

It is instructive to trace how, amongst primitive agricultural races, the art of spinning, the employment of beasts of burden, the invention of the oil-press which "was used in Asia Minor as it has been used for time immemorial in India to extract the oil of the sesame seeds," and of the wheel and cart, influenced their respective adoption of symbols of axial rotation. In turn, these symbols suggested and created divergent forms of ritual and religious cult. "The Turanians ... when they had evolved the idea of the god [pg 499] of heaven as the pole turned by the revolving days and weeks symbolized it as the pole of the threshing floors around which the oxen were driven." The reader is referred here to the passages from the Bhagavata-purana quoted in the present work (note 1, p. 448), in which axial rotation is compared to "oxen turning around their stakes," to which must be added the Vedic "one-wheeled car to which one horse named seven was yoked" (see p. 452, note 1), and the revolving wheel and the revolving measuring pole of the potter and builder castes, which united formed the Telis caste.

In the Vaya Purana, "the seven Maruts drive the stars which are bound to it by ties invisible to man, round the pole. They move round like the beam in the oil-press, for

its bottom is, as it were, standing still, while its end moves round”.... In the ritual “the Sanscrit Isha or the beam which turns this pole of heavenly oil-pressing mill, is the husband and father.” A diverging view, which developed and combined the ideas of fixity and circular motion with the kindling of the vital spark by the wooden fire-drill, caused the living tree to become the emblem of the tribal father or mother. The custom, still in use among some primitive people, of drilling for fire in the dry, inflammable bark of dead trees of a particular species, may have forcibly directed the choice of tribal trees. At all events, in India, we find the mango or Am tree, which recurs in Egyptian script (see fig. 63, 22), the fig-tree, the udumbara, the date-palm and other trees established as the parent trees of different tribes, who made their respective house-poles and presumably their fire-drills and sockets, from their wood. The curious ritual of marrying men and women to their respective mother or father tribal trees, before they are wedded to their respective husbands and wives is mentioned by Hewitt on p. 237, etc. This close bond between some special kind of tree and a tribe is a point which I particularly emphasize on account of its analogy to ancient Mexican, Maya and Peruvian tribal trees.

Returning to a study of the pole and the beam of the oil-press we find that, in Essay II, Hewitt traces the Greek myths of Ixion and Koronis to the Hindu comparison of the heavens to a revolving oil-press and, in the ritual of the Vajapeya sacrifice, refers the dawn of astronomy to the observation of the revolutions of the pole and the reckoning of the seven days of the week.... “Ixion, when raised to heaven, was the rain-god, who turned one wheel, to which his [pg 500] hands and feet were fixed by Hermes, the fire-god, continuously in the air, and this is merely a mythic way of saying that he was the fire-drill, made as the revolving pole to rotate perpetually, and by being turned to every side in his winged course, to produce life-giving heat, the generator of rain.... The Greek Ixion is the same word as the Sanscrit Akshivan,

the driver of the axle (aksha).... Ixion is also, according to Bopp and Pott, connected with the root ik, pouring water, which appears in ichor, 'the blood of the gods,' the water of life."

"Moreover, the Sanscrit aksha is a word of which the original is found in the Gond akkha, an axle. In the summer festival of the agricultural Gonds, called Akkhadi or Akhtuj, the worship of the cart axle or Akkha takes place and is associated with Nagur, the rain snake.... In the Vajapeya sacrifice ... the Soma priest consecrates two cups of the sacred drink Soma above the axle, at the same time as the Neskti priest consecrates two cups of Sura below it. In this ceremony we see a reminiscence of the days when the axle was the upright revolving pole pressing out the heavenly rain.... It also shows us how it was that the axle became the sacred part of the Soma cart ... and the revolving pole became the axle of the car of time and of the cart of the agricultural Gonds...."

It seems easy to trace from the rude one-wheeled cart, the evolution of the two-wheeled chariot, the prerogative of royalty in India and Assyria, employed simultaneously with the regal umbrella, which, when twirled, symbolized celestial axial rotation and suggested the idea of a protective deity. The transition from the "one-wheeled car" of the oldest Veda, to which "one horse named seven was yoked" to the chariot of Apollo = "Seven," whose lyre, with seven chords, struck the divine heptachord of the Pythagoreans, and who drove seven horses, coincides with that of the umbrella which, in Greece, was borne at the period of the summer solstice in the Skirophoria or "festival of the umbrella," in honor of Athene.

It is particularly gratifying to me, as it so forcibly substantiates the views I have been enlarging upon in this investigation, to refer here to Hewitt's quotations (p. 7, vol. II) from the Rig-Veda, in which the wheeled chariot, closely identified with the year, is said to be drawn by the father-horse, with seven names, the seven days of the

week, etc. Hewitt likewise cites passages of the Rig-Veda containing the conception of year wheels, the varying number of [pg 501] whose spokes agree with different divisions of the year. Thus one year-wheel exhibits twelve spokes, denoting months, another five spokes denoting five seasons. A chariot, with seven wheels with six spokes, is explained as meaning the seven days of the week and the six seasons of the southern year. “All living beings rest on the five-spoked wheel, ... the horses draw the never-aging wheel through space, whence the eye of the sun on which all life depends, looks down. The seventh of those born together they call ‘that born alone’: this is the self-created thirteenth or central month; the six twinned months are said to be those begotten of the gods. They are arranged in their order, six on each side of the central month, by the leader who dwells above.” A striking analogy to the ideas I detected, as associated with central rulership, in ancient America, is set forth in Hewitt's statement that, it was to the one wheel year “that the Hindus likened their universal monarch, the Chakravarta or king, who sits, like the Kushite monarch, as the father of his subject tribes, in the central province of his dominions, and directs his satellites, the rulers of the seasons, who became the ruling stars of the frontier provinces—the Nakshatra stars—to turn the wheel (chakra) of time in its yearly round” (*op. cit.* p. 31, vol. II, see also p. 314.)[147]

The single wheel, without any indication of an utilitarian employment, is found directly associated with the pole-star in Japan, where, as in China, the use of the wheel has been known from earliest [pg 502] times. It will be for Scandinavian archaeologists to enlighten us as to the earliest traces of the use, by northern races, not only of the wheeled chariot, familiar to those who named Ursa Major, Thor's wagon, but also that of the mill-stone. The employment of the latter in the description of the “revolving world mill-stone through which the waters of the Universe fountain flowed,” is a proof that the Eddas were written by an agricultural people, possessing

advanced methods of grinding or of extracting oil or juice from food stuffs. The association of the Norse mill-stone with the distribution of liquid, appearing to indicate that, like the oil-press of ancient India, the stone-mill of Scandinavia had been employed to extract fluids, challenges investigation as to the original home of the mill-stone and chariot of the Eddas.

Personally I am inclined to regard the term “world mill-stone” as a modernized transcription of the term “axle,” and the whole as a rendering of the archaic idea that “heat was engendered by the revolution of the Great Bear” and that the axle of heaven was the distribution of vital heat and vivifying water. I shall await enlightenment as to the relationship of the Norse tree of the pole and Thor, with the creating fire-drill of Tur, the father-god; and the connection of the Norse “mill-stone” and fountain, to the fire-socket and celestial cistern of the Kushites, said to be the “sons of the Finnic Ku, the begetter and rain-god,” who, having migrated to India and united with other races, founded a mighty confederacy, the plan of which is figured in Hewitt's work (p. 220), by “the union of four triangles, representing the southeastern and northwestern races, ... with spaces left open for the parent rivers,” which flow towards the cardinal points (see figure 73, *c*).

If we now revert to the first stages of the mental evolution, the outcome of which we have been reviewing, we cannot but recognize the curious, but perfectly natural chain of reasoning which led early man to explain natural phenomena in different ways by the results of his own immediate observation and experience. He had discovered that the rotation of the fire-drill generated fire; consequently the rotation of the circumpolar constellations must generate life-giving heat. The churning or twirling of liquid in a vessel, by means of the drill, caused an overflow; consequently the action of the fire-drill also caused an external flow of life-giving waters, which, after the invention of the oil or grape

press, was compared to the flow of precious oil or wine from the receptacle.

[pg 503]
High mountains attracted lightning-clouds and when these collected around their summits whence rivers constantly flowed, life-giving rain descended; consequently the tops of cloud-capped mountains must reach to the axle of the heaven where fire, heat and rain were being generated and distributed by the rotation of celestial bodies. As Polaris the axle, pivot or fire socket, was immovable it could most appropriately be figured by a wooden or stone socket, from which fire and water flowed towards the four quarters. Such an image would also figure a year, and, by extension, time, since it marked the four annual positions of circumpolar star-groups. The adoption of a stone socket as an image of the "revolving heaven" could thus have long antedated, but have suggested the invention of the wheel, which was at first a religious and then became a royal symbol.

I venture to express the view that the archaic image of Shamash (fig. 73, *a*), the homonym of Heaven and the North, which was "an ancient model" at the time of Nabupaliddin (879-855 B.C.), could only have been invented by a race of pole-star worshippers who had long been acquainted with the uses of the fire drill and the oil-press. At the same time I point out how remarkably the combination of four rays and four streams in the image of Shamash (Shame = heaven) coincides with the explanation given by Hewitt (p. 9, vol. II) of the Akkadian eight-rayed star of Anu (heaven), which, he asserts, is formed by the superposition of the fire-cross and rain cross. It is a most remarkable and undeniable fact that there is a striking analogy between the Anu sign as explained by Hewitt and the Shamash image. The eight-rayed or "spoked wheel" of Ishtar, which figures on the same tablet, also gains significance for the same reason, and particularly when collated with the hymn cited in note 1, p. 448, in which she is clearly designated as the

"axis of the heavens," *i. e.* the female Polaris.

Having indicated how the origin of the image of Shamash can be traced to conceptions arising from the use of the fire-drill and some primitive mode of extracting oil or of preparing a highly valued drink from seeds and plants, by centrifugal action, invented by a primitive agricultural people, I advance the suggestion that the celestial tree of the Norsemen and Semites, associated with the fountain and the four rivers of life, appears as a closely related symbol which, however, mainly expressed the idea of stability. In the Eddas the tree occurs as a complement to the world axle, the first as the [pg 504] emblem of stability and of a central power which dispensed shade and life-giving fruits in all directions; the second as the image of centrifugal power which caused the star-groups to assume opposite positions and which impartially distributed heat and water. It is curious to note how readily from the fire-drill and beam of the oil press as a starting point, not only all forms of tree and pole worship and the Chinese assignment of element wood to the Middle, but also all symbols of centrifugal motion, such as the axle, the pivot and the wheel, could have evolved on closely parallel lines.

Let us now transport ourselves to a land where, to this day, the Indian women grind maize on a flat stone, by means of a pestle, where the oil-press and the mill-stone, the pole of the threshing-floor, the potter's wheel and the cart wheel were unknown before the date of the Spanish Conquest and rotatory motion was associated with the fire-drill and spinning whorl only.

NEW WORLD.

The ancient Mexican name for the fire-drill = mamalhuaztli, and that for spinning-wheel = malacatl, are both derived from the verb malacachoa = to whirl, turn or drill. At the time of the Spanish invasion (A.D. 1519) the Mexican priesthood lit the sacred fire of the altar by an extremely primitive method of employing the fire-drill: by

holding it tightly between the palms of both hands and rapidly rubbing them alternately forward and backward.

The Codices contain numberless pictures representing a priest, in the act of kindling fire by inserting the drill in a simple wooden beam, usually exhibiting several small holes or sockets. On the other hand the Borgian Codex, which has recently been placed within general reach by the generosity of the Duc de Loubat, shows us two elaborate representations of the great ceremony of kindling the holy fire in a large circular socket, on the body of a woman which, in all cases is combined with the image of an alligator (see p. 91). In another Codex the alligator alone supports the socket. The smaller of these representations is reproduced in fig. 29, and on pp. 93-97 this image is discussed as well as the remarkable stone fire altars in human form, of which one has been unearthed near the city of Mexico, while no less than six were found at Chichen-Itza. My informant on this point is Mr. Alfred P. Maudslay, who added that they seem to have been invariably placed at the bottom of the stairs leading up to the temple, the façade [pg 505] of which is always supported by two great columns, each sculptured in the form of a great serpent with open jaws, the symbol which, in the bas-reliefs at Chichen-Itza and on the Central American stelæ, recurs on the head-dresses of the rulers termed “Divine serpents,” or “divine four in One.”

Postponing comment upon the curious analogy between the stone fire altars in human form, of the Mayas and Mexicans, with those of the Maghadas of Northern India, who called themselves the Sons of Magha = the socket-block whence fire was generated by the fire-drill, or the mother Maga, the sacred alligator, let us examine the fire-drill god of ancient Mexico.

Reference to fig. 1 reveals that it is impossible to see these Mexican representations, which I could supplement by others, and not be struck by their agreement with the descriptions of the Hindu pole-star god Dhruva, who

stands on one foot, of the lame Hephaistos of Greek mythology, to which I would add that Hewitt also mentions in his preface to vol. II the Norse Völunde, the maimed, one-legged turner of the pole; the god called in the Rig-Veda the Aja ekapad, or one-footed goat, who watched the revolutions of the solar disk, and the one-legged bird of Russian mythology, associated with a revolving house and fire-drill. In the Mexican Codices the Mexican Tezcatlipoca, held by one foot to the centre of the north, describes a circle around this. His foot evidently constitutes the fire-drill, which, inserted in the socket, causes smoke, also rain and a serpent to issue from it (see 5 and 6). One figure, representing one leg only in the fire-socket, and a head, exhibiting a small, smoking fire-socket, appears, in the light of comparative research, as a cursive method of representing the fire-drill god, universally associated with Ursa Major.

It is remarkable that, in one case water and in another smoke, indicating fire, issues from the socket of Tezcatlipoca's fire-drill, and that, opposite to the picture in the Borgian Codex, representing the kindling of fire on the fire-altar, we have the image of a pool of water from which four figures spring toward the cardinal points (see fig. 29).

It is only after recognizing that, like the people of the Old World, the Mexicans associated with the fire-drill and socket not only the distribution of fire and heat, but also of water, that we also fully grasp the symbolism of the symbol of the "Black or Night Sun," [pg 506] from the "Life of the Indians," which is but one of many simple forms exhibiting main features which recur on the highly elaborated Mexican stone of the Great Plan (fig. 73*b*). When placed in juxtaposition the undoubted resemblance between the Babylonian image of Shamash and the Mexican image, as well as the deep-seated identity of these two quadruplicate symbols stands out clearly: in the Babylonian, wavy lines emanating from the centre convey the idea of some fluid essence. In the Mexican, instead of

the wavy lines, the conventional representation of a drop of water is depicted—the idea in both cases being obviously identical and agreeing with the primeval universal conception of heat or fire, and water emanating from a common source, and flowing to the cardinal points. In both cases an axle or socket is represented, and it is instructive to study the different ways in which the symbol recurs in the Mexican Codices.

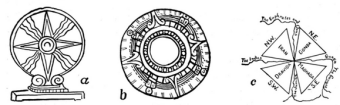

Figure 73.

Referring back to fig. 1, 1, reproduced from the Codex Borgia, we see the axle with rays issuing from a circular band of water. A receptacle filled with water occupies the centre and contains a tecpatl, the symbol of the north, the same associated with the fire-drill god in the next figure. In fig. 1, 4, the central fountain is surrounded, as in many instances, by stars which connect it with the nocturnal heaven, and it contains a rabbit = tochtli, the rebus figure employed to express the word octli, by which the rain was designated as “earth wine” (see pp. 95 and 185).

As I write, I have before me a whole series of painted representations from the Codices of what has heretofore been misinterpreted as images of the diurnal sun. In some of these the open centre is painted blue or green, in others it is filled by a heart from which flows, in some cases, a stream of blood, the essence of life. In several instances a tree with four main branches grows from the [pg 507] centre.[148] In one case the tree grows from a pool and holds in its branches the image of the axle, in the centre of which, as in the Humboldt Tablet preserved at the Berlin Museum, a figure is seated. The centres of others exhibit the head of a divinity painted red, a single eye, or the ollin. All examples establish the fact that the Mexican “axle of the North” represented fire and water emanating from a single source. In notable examples, where the axle is carved in stone, the identical features are conventionally reproduced. Some exhibit a depression or deep hole in the centre. This is the case in the

remarkable example at the museum in New Haven, Conn., where the axle is carved on the top of a square altar, the corners of which exhibit symbols of the four elements, each accompanied by the numeral 4. The centre of the figure exhibits a carved ollin, in the middle of which a deep hole is situated. An analogous but shallow depression occurs in the great circular monument, the Conquest Stone of Mexico (see p. 259), around which Tezcatlipoca, the one-footed fire-drill god, is represented sixteen times, each time in the act of receiving the enforced homage of the chief or chieftainess of a different locality.

The above monuments, as well as a rudely-carved representation of the "sun" recently discovered and unearthed by Dr. Ed. Seler, lying on a substructure of stones in the centre of an open space, presumably a market place, definitely proves that the design was intended to be placed in a horizontal position. This intention has already been noted in the case of the Great Cosmical Stone of Mexico (fig. 56), on which the rays and intermediate water drops recur, and are represented as emanating from the central Nahui Ollin, the Four in One, which encloses the masked face of the divine Twain.

A question naturally suggests itself at this juncture: How did the ancient Mexicans, who utilized the fire-drill in its most elementary form and as far as is known, employed no means of extracting [pg 508] oil or juice or of grinding food-stuff by a centrifugal process,[149] come to employ as a sacred symbol, the axle or "mill-stone" which, in India, had been adopted as an image of central rotation, by people who constantly used the fire-drill and the oil-press?

The strongest proof that the idea of a circular disk was associated in Mexico with terra-cotta spinning whorls only, is the fact that, in the native description of the Great Temple recorded by Sahagun, a circular stone monument, employed in religious festivals, which the Spaniards

described as a “stone wheel,” is termed in the Nahuatl text as a “te-malacatl” *i. e.* a “stone whorl.” Further evidence of the close association of such “stone whorls” with thread or cord, the product of spinning, is furnished by the way in the ritual, that the victim was attached by one foot to the open centre of the “stone whorl” and circulated around the stone which lay motionless. On the other hand, the sculptured zone on the Great Cosmical stone, enclosing the day signs placed in their fixed order of rotation, and the sculptured frieze on the Tribute Stone, furnish direct evidence that circular movement was associated with the cosmical axle, or disk.

It is obvious that the distribution of water combined with fire from a common central source, represented as a mill-stone, could not have been suggested to the native mind by the use of the fire-drill and socket and the spinning whorl only. Therefore we are obliged to face the question whether the cosmical figure may not have been introduced, as a religious symbol only, by a race of civilizers who, though acquainted not only with the oil press and chariot but also with the Akkadian star of Anu, the combination of the rain and fire crosses, and with the Assyrian-Babylonian image of Shamash (an elaboration of the same idea), but in the absence of beasts of burden and sesame seeds in Mexico, had no opportunity, or did not consider it feasible or necessary, to teach the use of the chariot, oil-press or circular mill stone to the natives. Before forming any conclusions or conjectures on this point, however, a number [pg 509] of other questions must be investigated. One fact, however, stands out quite clearly: Whereas in figure 73, *b*, we have the rudimentary form of the quadruplicate symbol, closely resembling that which was already ancient and almost obsolete in Babylonia in the ninth century B.C. and pertained to a cult of Shamash, the North and Heaven, which had flourished in that country about 1850 B.C., the Great Cosmical Stone of Mexico represents the highly advanced development and elaboration of the identical cult, as actually established there until the year 1519 of our era.

Pausing here and looking back upon the foregoing summary of the universal spread of identical forms of social organization and of rituals suggested by the use of the fire-drill, in association with a primitive pole-star cult, there are a few distinct and unrelated points which claim special attention: First of all, the identity in the form of the fire-altar and the cult of the fire-socket, among the Maghas and Nahushas of India and the Mayas and Nahuas of Yucatan and Mexico. Secondly, the striking resemblance of plan and numerical scheme which unquestionably existed between the ideal "divine polities," recorded by Plato, and the states which actually existed, of ancient Peru and Mexico. It is impossible to read Plato's scheme of an all-pervading division into 12, and his plan for the laying out of the capital and state and not to recognize the fact that, in Peru, as set forth on pp. 133-149 of the present work, these identical principles were actually carried out by the alien Incas who, in comparatively modern times, collected the natives together and organized them into a settled community. Thirdly, the undeniable fact that the numerical scheme of the Maya and Mexican Calendar and state-organization is identical with that adopted by Constantine, in establishing New Rome.

Postponing a closer examination of these points until further on, let us now continue our comparative review.

The universal spread of the identical scheme of organization, vouched for by documentary evidence, is further demonstrated by the results of archaeological and historical research and a comparative study of ancient symbolism. Thus it is impossible not to admit the striking and deep-seated analogy between the Assyrian four-fold division of city and state, the title "lord of the four regions" and the image of Shamash, the "four-spoked wheel;" the Indian, Egyptian and Grecian philosophical conceptions of four elements, culminating in Plato's Cosmos and Theos (an entity, [pg 510] spherical in shape, incorporating four elements) and, for instance, the

quadruplicate symbol carved in the centre of the Mexican Cosmical Tablet, which exhibits the symbols of the same four elements embodied in a single symbol, representing the supreme power, who is thus proven to have been conceived by the Mexicans, as well as by the Peruvians, as "the Air, Earth, Fire and Water in One," or the source of the four elements.[150]

When it is likewise considered that the Mexicans employed the divine title, "four times lord," that the Maya title "Kukulcan," signifies the "Divine Four," that the ancient map of Mayapan proves that, like the Kushite confederacy, and the kingdoms of Assyria, Egypt and Peru, it was a "Four provinces in One" or a "four-fold state," the identity of the principles underlying the archaic civilizations of the Old and New World becomes more and more apparent. It likewise becomes evident that in each of these countries the significance and symbolism of the archaic cross-symbol and swastika must have been identical, and that, like the pyramid (the form of which, in the ancient Greek alphabet, is given [pg 511] to the letter delta which expresses, numerically, four, a quatuor, or 4,000) and the square stone altar or column, it figured the Four in One, the mystic Five or the Four and all-embracing One. The following array of facts demonstrates further the universal association of archaic cross-symbolism with the conception of an all-embracing, stable, central power.

A striking demonstration of this is furnished by the diagonal cross, employed as a Chinese character, to express the word wū = five, just as it is used, in Egyptian hieratic script, to express the syllables uu, un or ur (see fig. 60). Sometimes, in Chinese, a horizontal line is drawn above the cross and another beneath it, and John Chalmers informs us that, according to the Shoh Wan, this "full form means the five elements between heaven and earth, the upper line being heaven and the lower earth." The sign thus obviously constituted an image of the Cosmos, the 5 + 2 = heaven [pg 512] and earth, thus

furnishing the familiar seven directions in space, the chief and synopsis of which is the sacred Centre.

The association, in ancient America, of the cross-shape with central stable power, has already been discussed in the case of the Copan swastika, p. 222. At the time when I wrote about this and carved stelæ found at Quirigua and Copan, I had not yet learned of the remarkable discovery made there, by Mr. George Byron Gordon of the Peabody Museum Honduras Expedition, which furnishes me with the most striking confirmation of the conclusion I expressed on p. 220, namely, that the personages, whose portraits are sculptured on the stelæ, were high-priest rulers, who bore the title "Divine Four," and were "rulers of the four regions."

Referring the reader to Mr. Gordon's report, published in vol. I, no. I, of the Peabody Museum Memoirs, I merely note his verification that, beneath several stelæ examined for this purpose, there exist subterraneous vaults, in the form of the so-called Greek cross, above the exact centre of which the stela stands, its base being inserted in the stones forming the ceiling of the chamber. In one case the length of the cruciform vault is over nine feet from eastern to western extremity, the width of the branches being one foot and their depth two feet. Over thirty vessels of pottery were found in this, amongst them large urns with covers. It would appear from this that, like the Egyptians, the ancient builders of Copan performed certain ceremonial rites in connection with the construction of these artificially cosmical centres.

What seems quite clear is that the subterraneous vault constituted a sacred cosmical chamber and that the stelæ were memorial stones, which probably represented the image of a lord, and the record of his fixed term of office which formed a period or era of the native calendar (see p. 221). The stela which formed the stable, visible centre of the hidden substructure may also have been employed as a gnomon during some period of time, and in the

monument the initiated must undoubtedly have recognized the underlying cosmical conceptions, and regarded it as a highly developed form or variant of the archaic cross, the primitive record of a year. It is remarkable how closely analogous are the Central American stelæ with their hidden cruciform vaults, to the conception of the Egyptian “star of Horus” explained by Hewitt as the meridian pole raised in the centre of a cross denoting the four quarters.

[pg 513]
The most striking evidence of a close affinity between the ancient Central American ah-men, or master-masons, who built cruciform windows in the walls of temples and designed the cruciform vaults under the stelæ at Copan and Quirigua, and the amanteca or tolteca, the master-architects and builders of Mitla, Mexico, is furnished by Mr. M. H. Saville's recent excavation of three remarkable subterraneous, cruciform chambers, the largest of which is situated on the summit of a high hill near Mitla. The interior of the latter is elaborately decorated with geometrical designs, like those on the exterior of the Mitla palace. The extreme length from east to west is 9m. 71cm., from north to south 8m. 18cm., and its roof was composed of large flat stones. The entrance to this and the other cruciform vaults is situated at the extremity of the western arm, which in the case described was longer than the other arms.

The most remarkable example of such a cruciform crypt is, however, that situated beneath the palace of Mitla, which has been figured by Dupaix in Lord Kingsborough's Mexican Antiquities, vol. IX. This vault is also built of the shape of a so-called “Greek” cross, but in its centre stands a large circular stone column reaching from floor to ceiling. It is impossible not to recognize the symbolism of this pillar situated in the centre of a structure, the form of which symbolizes the Four Quarters and the fundamental identity of the column occupying the centre of the Mitla chamber and the Copan stelæ standing above the centre

of the hidden cruciform vault. Details associated with the pillar which stood in the Great Temple of Mexico (p. 53), and the "pedestal" erected on the hill of justice at Guatemala (p. 79) definitely show that, in ancient America, the column was also associated with star-cult, with the administration of justice and central celestial and terrestrial government. Investigation has shown that precisely the same ideas were associated with the circular, square or octagonal columns of Egypt, Greece, Rome and Japan, where they either constituted the images of the central supreme divinity, formed the support for the statues of earthly "divine" rulers, or marked the centres of the cosmos or state, bearing inscriptions of the sacred laws as in Athens, or of the distances to all points of the empire, viz. the Roman Milliarum Aureum.

It is remarkable to find that, whereas in ancient Byzantium the centre of the city had been marked by a column surmounted by a colossal statue of Apollo, a pillar or pole god, Constantine erected [pg 514] a "spacious edifice, from the centre of which all roads of the empire were measured." Considering that, at the time when this edifice was built, the ancient quadruplicate plan had been revised and the empire of New Rome had been divided into four parts by Constantine, it seems reasonable to infer that the form of the great edifice which marked the territorial centre of the new empire bore the impress of the cruciform plan, and that the shape of the cross should have been adopted throughout the empire, in edifices marking central consecrated places. How much of the true spirit of the Christian ideal of universal brotherhood entered into the constitution of Constantine's New Rome it is impossible to conjecture. Niebuhr denies that Constantine was a Christian, records that he was only baptized shortly before his death, and states that the religion of Constantine "must have been a strange compound indeed, something like the amulet recently discovered at Rome, which is an example of that curious mixture of Judaism, Christianity and Paganism which we

so frequently meet with from about the beginning of the third century."[151]

In an extremely interesting monograph "On the origin of the cruciform plan of the mediæval Cathedral," by the distinguished architect, Mr. E. M. Wheelwright, published in the "Transactions of the Boston Society of Architects, 1891," I find the significant fact that what is now the little church of S. Tiburce, Rome, in the form of a Greek cross, was built at the time of Constantine.

The same monograph teaches that "de Rossi discovered in the catacombs of Rome two scholia of a plan called specifically triclinium, of a date previous to Diocletian and probably of the third century. In such were celebrated, by the presbyters, the memorial feasts of martyrs, the congregation assembling outside. Tombs of a positive cruciform plan are also found in the catacombs. In [pg 515] the fifth or sixth century cruciform buildings became in the East, and *wherever Byzantine influence was potent, the recognized form for tombs, mortuary chapels and buildings commemorative of holy places*. These types seem to have been given, by Byzantine architects, special recognition of the purpose of their construction and to have appeared to them *as monuments requiring a symbolical expression of plan*, while they evidently *did not consider such symbolical expressions requisite in buildings planned for general congregations*, which, although of types without distinct association with the Christian faith, were held, for several centuries, to be sufficiently well adapted to purposes of Christian worship without material change from their ancient form [that of the Roman Basilica]."

Referring the reader to Mr. Wheelwright's monograph for interesting data concerning the Byzantine influence discernible in the early types of Christian churches of cruciform plan erected in northern Italy and Europe, I merely note here that in St. Sophia, founded by Constantine, and completed by Justinian, "the load of the dome is thrown on four great piers disposed at either

corner of a square. These great piers, with the corresponding buttresses of the outer wall, suggest a possible symbolical intent in the arrangement ... otherwise the cruciform plan here suggested is expressed neither externally nor internally." I venture to suggest that in St. Sophia, "Holy Eternal Wisdom," as in the case of the Pantheon, the dominant idea may have been the all-embracing unity, but that, as the number four was identified with "wisdom and justice" by the widespread Pythagorean philosophy, that number must have seemed, to the initiated, to pervade the entire structure. In the case of the Church of the Nativity at Bethlehem, where it was Justinian's intention to mark a sacred locality, we find the cruciform plan clearly carried out. "The church of St. Simeon Stylite at Kelat Seman Syria, built about A.D. 500, is a most interesting example of a cruciform church, marking a sacred spot [and associated with a sacred column]."

"The church of the seventh century built at Sichem, over the well of the Samaritan, shows a distribution of plan similar to that of S. Simeon Stylite, the holy object being at the crossing.... There are existing at St. Wandrille and at Querqueville in Normandy, two (cruciform) triapsidal churches of a date prior [pg 516] to the Norman conquest ... a well preserved four-apsed tomb chapel exists at Montmajour near Arles, built in 1019; the detail and plan of which point to a Syrian prototype and resembles two buildings of an early date now existing in Dalmatia." The use of the cruciform type of church, anterior to the great revival of purely Christian religious architecture in the thirteenth century, was confined to Picardy and the Rhenish provinces, fine churches of this type being at Cologne, Bonn, Marburg, etc.

It is interesting to recall that the building of sacred structures is attributed to "secret organizations of free or enfranchised operative masons which existed during the middle ages, and possessed grades of officers and secret signs by which, on coming to a strange place, they could

be recognized as real craftsmen and not impostors." To this day, in some parts of Germany and Bohemia, the swastika is the sign or mark of the stone-mason's guild which has survived from the mediæval times. In the organized bands of masons whose mark was the swastika and who introduced Eastern cosmical symbolism into Europe and gradually developed, upon this basis, a purely Christian form of architecture, we may perhaps see the descendants of those ancient builders who, filled with the conception of the sacred Central power, the Four Quarters, the Above and Below, planned the square, seven-stoned zikkurats of Babylonia-Assyria, the pyramids, obelisks and sphinxes of Egypt, the columns and cruciform tombs and sanctuaries of Greece, Asia Minor and Rome, the cruciform temples and the topes of India and the domes of the Pantheon and St. Sophia.[152]

It would appear that these ancient builders were also the designers and founders of cities and states. It is, for instance, known that Hippodamus, the son of Euryphon, a Milesian, and by profession an architect, gained celebrity in his own art by constructing the Piræus at Athens and by improving the method of distributing [pg 517] streets and planning cities ... and also wrote a treatise concerning the best form of government.

A kinship of thought undoubtedly exists between the trained builders of cosmical structures in the Old World and the ah-men, the amantecas and toltecas of Central America and Mexico, who also reared pyramids, cruciform vaults, circular temples, with openings to the four quarters (see fig. 30, p. 97), altars and pillars, and in their temples wrought, in stone, endless variations of the great human theme: the sacred central, stable power, the four quarters and elements, and the heaven and earth with the dualities of Nature, and likewise instituted an artificial scheme of social organization, a calendar and religious rites based on these same fundamental principles, which can be traced back to primitive pole-star worship. It has been of utmost interest to me, as I was

approaching the end of the present investigation, to become acquainted with Hewitt's work and his view that it was the seafaring Turanians, originally a northern race, the worshippers of Tur = the pole, who claimed descent from the seven stars of Nāgash, the serpent = Ursa Major, and, from India, extended their trade and carried their form of social organization and religious cult first to the Euphratean kingdoms and afterwards to Egypt and Syria, where they were known by the Greeks as the Phœnicians.

The subjoined detached passages, which open out new fields of inquiry, not only appear to me to establish conclusively this view, but certainly afford most interesting information concerning the ancient race of pole-star worshippers, seafarers, builders and handicraftsmen who, according to Hewitt (p. 25), extended their emigrations not only to Europe but also to America.[153] Hewitt bases [pg 518] the latter assertion upon the identity be perceived "between Akkadian and American mythological traditions."

As the limit of the present inquiry excludes mythology, I cannot discuss here the evidences of similarity produced by Hewitt. I must express regret, however, that he designates a tribe of Pueblo Indians (the Sias, related to the Zuñis), as "Mexican" (see vol. II, p. 243, etc.), a term which, in this case, is decidedly misleading. His identification of the truly Mexican, "teo-cipactli" as a "fish-god" is unfortunate, as numberless conventionalized drawings in the Codices prove that cipactli signifies alligator. If the somewhat limited and vague evidence, produced by Mr. Hewitt, appeared to justify his conclusion, how much more must an identity of social organization and cult such as I have traced, not only authorize but also render it imperative, that the possibility of pre-Columbian contact should be thoroughly looked into. Disclaiming any desire to formulate hasty conclusions, and merely for the sake [pg 519] of gaining information by looking squarely at facts, I shall now rapidly enumerate some of these which undoubtedly

appear to corroborate Hewitt's further assertion that “the Mayas and Nahuas of Yucatan and Mexico were emigrants of the Magha and Nahusha tribes, who pertained to the race of navigators known by the Greeks as the Phœnicians ... and who continued in their new land, America, the worship of the rain god, to whom, as their fathers in central Asia, they dedicated the sign of the cross” (Hewitt, p. 492).

“The Maghas were the Finnic long-haired race of star- and fire-worshippers who, starting from Phrygia, as the Takkas conquered northern India ... who called themselves the sons of the Northern pine tree, called in Phrygia, as by the Northern Finns, Ma = the mother; also the sons of the mother-goddess Magha, the socket block whence fire was generated by the fire-drill; who is also worshipped as the mother Maga under the form of the alligator. Consequently the alligator was their totem.” In Essay VIII [pg 520] Hewitt states that these “sons of the great witch-mother Maga” lived in Magnesia, whence they emigrated to Thessaly and that theirs was the “city of the Magnetes” referred to by Plato as “the mother of laws.” The word mag, however, meant great in Akkadian, hence according to Hewitt the name Makkhu, the high priests or Magi (vol. II, p. 54).

> The Maya and Mexican fire altars and sockets and their association with the earth-mother and alligator in the native Codices has been discussed. The Mexican day-sign cipactli figures an alligator and is associated with a female deity. The alligator altar at Copan, is described on p. 228. Were it not for limit of space additional testimony could be cited here, proving that in Mexico the alligator was associated with the mother of the race, the fire-socket, and was a tribal totem.

“As the mother Maga she is the maker or kneader, the mother of the building and constructing races ... they

were the first builders of towns.... They adored the god of the twirling or churning fire-drill.... They employed the name Ku, Ukko, Pukka and Pukan to designate the rain and thunder god and star-god who guides the stars in their courses and rules the beginning of the year" (Hewitt, p 438). The Finnic and Esthonian "Ukko is also called Taivahan Napanen, meaning the navel of the heaven and this is called the place of the pole star, the star at the top of the heavenly mountain" (vol. II, p. 155).

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> Compare Ku in Maya list, appendix III, also Tezcatli-poca or puca = Mexican fire-drill god, Ursa Major.

"They worshipped Nag or Nagash, = the serpent and fire-drill constellation of Ursa Major, and consequently called themselves also the sons of Naga = the Nahushas. They worshipped the Pleiades = the mother stars...."

> The Nahuas traced ancestry to seven stars of Ursa Major and began their religious year at the culmination of the Pleiades at midnight.

"The Nagas united with the navigating Shus or Phœnicians ... the red men, who worshipped the ruler of heaven.... These Shus ... called in the North, Hus ... were the Sumerian trading races of the Euphratean delta and Western India, who traced their descent to Khu, the mother bird of the Akkadians, Egyptians and Kushites.... They reverenced the sacred 'shu' stone, the begetter of fire and of life fostered by heat,... designated as the precious stone, the strong stone, the snake stone, the mountain stone.... The pregnant mountain of the Shu stone was to the Akkadians the central point of the earth. The people who are said in the Rig-Veda to have first found fire by the help of Matarishoan, the fire-socket, and to have brought it to men, and are said to have placed it

in the navel of the world ... as the sacred Shu stone."

It should be added here that the Hittite sign for Ishtar was a triangle enclosing a stone: "the mountain enclosing the stone of life."

> About 270 A.D. the Tutul-xius = (*cf.* Kukul) under a great chief or lord Kukulcan reigned at Chichen-Itza ... (p. 206). In Mexico the name for turquoise is xiuitl and the god of fire is named Xiuh-tecuhtli. Jadeite is designated as chal-chiuitl and is associated with Chalchiuitlycue, the mother-goddess. The spark-producing, flint knife = tecpatl is also employed as a symbol of generation.

"Their kings, like those of Egypt, wore the uræus serpent as a sign of royal authority and made this the emblem of kingly rank in countries so widely distant from one another as India and Egypt...."

We learn from Prof. A. H. Sayce (Ancient Empires of the East, p. 200), that customs that had originated in a primitive period of Semitic belief survived in Phœnician religion and that clear traces of totemism are found amongst the Semites. "Tribes were named each after its peculiar totem, an animal, plant or [pg 522] heavenly body.... David, for instance, belonged to the serpent-family, as is shown by the name of his ancestor Nahshon, and Professor Smith suggests that the brazen serpent found by Hezekiah in the Solomonic Temple was the symbol of it. We find David and the family of Nahash, 'or the serpent,' the king of Ammon, on friendly terms even after the deadly war between Israel and Ammon, that had resulted in the conquest and decimation of the latter."

> The name of the culture hero Kukulcan or Quetzalcoatl incorporates the word serpent in Maya and Nahuatl. The conventionalized open serpent's jaw forms the usual head-dress of the

lords sculptured on the Central American stelæ and bas-reliefs. The existence of totemism in America is too well known to require comment, and the arbitrary method by which it was established by the Incas of Peru, when they founded the new colony, has been described.

"... I have already shown that the snake-father of the snake races in Greece and Asia Minor and of the matriarchal races in India was the snake Echis, or Achis, the holding snake, the Vritra, or enclosing snake of the Rig-Veda, the cultivated land which girdled the Temenos. This was the Sanscrit and Egyptian snake Ahi.... But the Naga snake was not the encircling snake, but the offspring of the house-pole and in this form it was called by the Jews the offspring or Baal of the land. But as the heavenly snake it was the old village snake transferred to heaven, called the Nag-ksetra, or field of the Nags, and there it was the girdling air-god who encircled the cloud mothers, the Apsaras, the daughters of the Abyss, the Assyrian Apsa, and marked their boundaries as the village snake did those of the holy grove on earth. But on earth the water-snake was the magical rain-pole, called the god Darka, set up by the Dravidian Males in front of every house ..." (p. 194). "They are the Canaanites, or dwellers in the low country, and the Hivites or the villagers of the Bible and the race of Achæans of Greece. These are the sons of the Achis = the serpent, the having or holding snake, the girdling snake of cultivated land which surrounded the Temenos or inner shrine, the holy grove of the gods" (Hewitt, p. 175).

Attention is drawn here to the twin serpents which enclose the Mexican Cosmical Tablet (fig. 56), whose bodies may be seen to consist of a repetition of the conventional sign for tlalli = land, consisting of a fringed square. Each square in this case encloses a sign resembling that of fire = tletl and the numeral

ten. These girdling serpents, whose heads unite, [pg 523]being directly associated with land, appear as the counterpart of the Old World Achis, a curious fact when it is considered that they are represented as springing from the sign Acatl (see p. 257).

On the other hand, the heavenly "feathered serpent" of Mexico and Yucatan is distinctly associated with the air and the circle; its conception curiously coinciding with that of the "girdling air-god" mentioned by Hewitt. It is well known that the walls enclosing the court of the Great Temple of Mexico, were covered with sculptured serpents, and at Xochicalco, Mexico, and in Central American ruins (Uxmal, for instance), great sculptured serpents surround the buildings. It is remarkable that the sign Acatl not only figures conspicuously on the Great American Tablet, but also on the allegorical figure of the "Divine Serpent," which may well represent the totemic divinity and ancestor of a snake tribe, associated with the word Acatl, possibly conveying their name. The undeniable association, in Mexico, of the serpent with Acatl, curiously agrees with the name of the "sons of Achis, the serpent" = the Achaians: and deserves consideration.

In the Genesis genealogy of the kings of Edom, the land of the red man, the priest king of the Hus or Shus is mentioned "... his people had replaced the Tur, the stone pillar, the Egyptian obelisk by the temple, the home and symbol of the creating god, who had been the pillar of the house.... But in their eyes the father-god was not the central pillar but the two door-posts and thence they called the temple gates Babel or the gates of god.... This gate was guarded by the holy twins.... The doorposts, and night and morning are invoked in the Rig-Veda.... The Magas were the discoverers of magic, mining, metallurgy, handicrafts—the pioneers of scientific research and the

first organizers of a ritual of religious festivals."

> Twin pillars, sculptured in the form of great serpents, whose names signify twinship, support the entrances to the ancient temples of Yucatan, Central America, and have been found on the site of the Great Temple of Mexico. The Mexican and Maya accounts of the culture hero Quetzalcoatl-Kukulcan state that he and his followers were "great necromancers"and magicians and that they taught handicrafts, metallurgy, and instituted calendar, social organization and ritual. A personal, close examination of a large number of old Peruvian and Mexican as well as Coptic textile fabrics, has convinced me moreover of their identity of technique.

"The Magas sacrificed dogs,.... They wore long hair,.... They made human sacrifices in order to obtain rain" (Hewitt).

"The Phœnician priests scourged themselves or gashed their arms and breasts to win divine favor.... Human sacrifices [pg 524] were made, to Moloch or Milkom ... the parent was required to offer his eldest or only son as a sacrifice and the victim's cries were drowned by the noise of drums and flutes" (Sayce).

> The human sacrifices of Mexico are familiar to all. The native dog and various kinds of birds were sacrificed. The Mexican priests, named papas, wore long hair, practised asceticism, gashed their breasts, arms and legs and pierced their ears and tongues. On the Palenque bas-reliefs, priests with long hair are sculptured. The human sacrifices of Mexico and those of Egypt, Phœnicia and Assyria, described by Sayce and Hewitt (pp. 275 and 348), are closely alike. See also Hewitt's account of the blood brotherhood made

between the sacrificer and the land on which the blood is poured (p. 196), and the Chichimec blood sacrifice described in the present work, p. 66.

The foregoing are a few noteworthy analogies which have impressed themselves upon me during the present course of investigation, in addition to the many undeniable and unsuspected evidences I have found, of an identity of star-cult, ritual and social organization in Old and New World civilizations.

It will be seen that the outcome of my researches corroborates the opinions differently expressed by a long line of eminent investigators, who have been constantly discovering and pointing out undeniable similarities and identities between the civilizations of both hemispheres.

It seems to me that an accumulation of evidence now forces us to face and thoroughly investigate the possibility that, from remote antiquity, our continent and its inhabitants were known to the seafarers of the Old World, to whose agency the spread of similar forms of cult and civilization in the New World is to be assigned.

While those who uphold the autochthony of the native civilization may regard such identities as accidental, those who are willing to admit the possibility that the Phœnicians, the red men of antiquity, whose land was Syria, navigating by the pole-star, may have reached America, will doubtlessly dwell upon the unquestionable fact that the most ancient traces of organized and settled communities actually exist along the coast swept by the equatorial currents. A glance at an ordinary chart exhibiting the ocean currents and trade winds shows that vessels sailing southward from the Canary Islands and caught in the north African current, might, at a certain point, enter the north equatorial current flowing towards the coast of America. Further southward still, off the coast of Guinea, the current bearing this name meets the main

equatorial [pg 525] current which sweeps along the coast of Honduras and Yucatan into the Gulf of Mexico.

What is more, ancient well-known tradition asserts that the culture-hero Kukulcan-Quetzalcoatl, with his followers, came to Mexico from the East (*via* Yucatan) and told the natives of their distant home, named Tlapallan and Huehue tlapallan which, translated, mean "the red land" and "the great ancient red land." Native American tradition unquestionably and unanimously ascribes to single individuals of aged and venerable aspect, or leaders of small bands of men and women of an alien race, the peaceable introduction of a definite plan of civilization, identical in its elements with that known to have existed in India, Egypt and Babylonia-Assyria from time immemorial, and said to have been spread to these countries by the Phœnicians.

Native tradition, therefore, is seen unanimously to controvert the independent development of the cosmical schemes of government and most advanced forms of civilization which prevailed in America at the Columbian period. This, of course, in no wise excludes the existence of purely native people, with a certain degree of civilization, more rudimentary in form, founded on impressive natural phenomena, which the natives had always been in a position to observe for themselves.

In order to obtain an insight into conditions which might have determined and affected maritime intercourse with distant America, let us now make a rapid survey of the history of the ancient civilizations of the Old World. This reveals, in the first case, the undeniable fact (one of deepest significance in the light of the present investigation) that the period of a general stirring of men's minds, in countries where pole-star worship had prevailed from time immemorial, exactly coincides with the period to which I alluded on p. 43, during which there ceased to be a brilliantly conspicuous and perfectly immovable pole-star in the northern heavens.

From Mr. Hinckley Allen's work (p. 454), I have since learned that astronomers have closely determined this period, and that Miss Clerke writes of this: “The entire millennium before the Christian era may count for an interregnum as regards pole-stars. Alpha Draconis had ceased to exercise that office; and Alruccabah had not yet assumed it.” Prof. A. H. Sayce tells us that the Phœnician pilots steered by the pole-star in remotest antiquity, and it is a matter of history that “Pytheas of Massilia, the bold navigator [pg 526] (died about 285 B.C.), showed the Greeks that the pole-star was not at the pole itself.” Previous to that date, however, the astronomer-priests must have noted the change in the heavens. On descendants of ancient pole-star worshippers, whose entire religion and civilization were based on the idea of fixity and rotation, the unaccountable change in the order of the universe must indeed have produced a deep impression. Under such conditions it seems but natural that a great awakening of doubt and speculation should take place, that worship should be transferred from stars known to be subject to change, to the unseen, incomprehensible but ever-present eternal power which ruled the universe.

Let us examine some of the records of the great intellectual movement that swept at one time, like a wave, over the ancient centres of civilization. The eighth, seventh and sixth centuries before our era are marked by the growth of the Ionian philosophy which, as Huxley tells us, “was but one of many results of the stirring of the moral and intellectual life of the Aryan-Semitic population of Western Asia. The conditions of the general awakening were doubtless manifold, but there is one which modern research has brought into great prominence. This is the existence of extremely ancient and highly advanced societies in the valleys of the Euphrates and the Nile.... The Ionian intellectual movement is only one of the several sporadic indications of some powerful mental ferment over the whole of the area comprised between the Ægean and Northern

Hindustan...."[154]

Professor Schroeder's statement that, "in the seventh century B.C., the idea of four, *i. e.* five elements, spread in India," is particularly interesting in connection with the date assigned to the birth of the Ionian intellectual movement. Of Pythagoras it is related that, like Solon, "he had visited Egypt, also Phœnicia and Babylon, then Chaldean and independent, and founded a brotherhood originally brought together by a religious influence, with observances approaching to monastic peculiarity, and working in a direction at once religious, political and scientific." According to the learned translator of Cicero's first Tusculan disputation[155] "it is generally accepted that Pherecydes of Syros (one of the Cyclades islands in the Ægean sea) was the teacher of Pythagoras. Pherecydes, [pg 527] who flourished about B.C. 544 is said to have derived his knowledge from the secret books of the Phœnicians and from travels of inquiry in Egypt." Through Philolaus (see Grote IV, p. 395, note 2), Pythagorean science was made known to Plato, whose views are quoted on p. 449. Grote states that, about 300 B.C., the Pythagorean philosophy nearly died out. It is a curious fact that this date coincides, approximately, with the destruction of Tyre (Tsar, in Phœnician, = the rock), the last stronghold of the Phœnicians, "which had defied Assyrian, Babylonian and Persian but at last fell," according to Prof. A. H. Sayce, "in July, B.C. 332, before the Greek conqueror Alexander. Thirty thousand of its citizens were sold in slavery, thousands of others massacred and crucified and the wealth of the richest and most luxurious city of the world became the prey of an exasperated army. Its trade was inherited by its neighbor Sidon" (*op. cit.* p. 194). It is obvious that, at this period, bands of fugitives may well have taken refuge in traders' ships and sought safety in flight to distant regions, where they might establish themselves and found colonies on the pattern of Tyre or of Carthage which, in ancient times had also been founded by fugitives and been named "the new city," Karthakhadasha (Sayce). While the great

historical events which marked the fourth century B.C. seem to have arrested the spread of Pythagorean philosophy, we find that, according to Grote, “in the time of Cicero, two centuries later, the orientalizing tendency, beginning to spread over the Grecian and Roman world, caused it to be again revived, with little or none of its scientific tendencies, but with more than its primitive religious and imaginative fanaticism.... It was taken up anew by the pagan world, along with the disfigured doctrines of Plato. Neo-Pythagorism, passing gradually into Neo-Platonism, outlasted other more positive and masculine systems of pagan philosophy, as the contemporary and revival of Christianity” (*op. cit.* IV, 398). Neo-Platonism reached its height under its chief Plotinus (A.D. 205-270) who sought to reconcile the Platonic and Aristotelian systems with Oriental theosophy. His pantheistic and eclectic school was the last product of the Greek philosophy.[156]

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It is, at all events, remarkable, that the date tradition assigns to the presence of Kukulcan in Yucatan and the foundation of the quadruplicate state of Mayapan coincides with the dying out, in Europe, of pagan philosophy, one of the features of which had been the elaboration of ideal forms of government based on a numerical and cosmical scheme, the elements of which had apparently been spread by the Phœnicians. In Copan and Quirigua we find remnants of long-established, peaceable communities revealing no trace of war-like weapons, and the memorial stelæ of whose rulers stand above hidden cruciform vaults, while carved personages are represented as seated in the centre of ornate crosses. In Yucatan, through which land the foreign civilization seems to have reached the plateau of Mexico, there are significant traces of an ancient city, named Zilan, situated on the Atlantic coast; proofs that buildings of cosmical forms were erected; that the state of Mayapan was laid out on the familiar cosmical plan; that repeated migrations took place, and that, from time immemorial, a

calendar, on the same numerical basis as that of Mexico, had been in use. The great state of Mayapan, where a remarkable stone cross was found at Cozumel by the Spaniards, is shown to have been figured as a circle within a circle, the whole divided into four parts by cross-lines. Here, as in Chiapas and Mexico, all divisions of government, population and time are organized on a numerical scheme representing the combination of $4 \times 5 = 20$ *i. e.* an entire finger and toe count, "a whole man," with the 13 directions in space. The multiplication of 13 and 20 results in a unit of 260 which, as a cycle of time, represents the complete set of all harmonious combinations of man the miniature image of the living state, with the thirteen directions of space in the all-embracing Cosmos, composed of four primary elements. In consonance with this we find the existence of 20 (or 4×5) lords, whose names correspond to those of the 4 chief and 16 minor day-signs of the calendar, and of a lord by election, whose name signifies the thirteen divisions or parts, and who constituted a microcosmos, a Four in One. In regular rotation the 20 lords, consisting of 4 chief and $4 \times 4 = 16 =$ minor rulers fulfilled duties towards the supreme representative who resided in the capital, while they respectively lived in four provinces, the population of which was subdivided into four tribes each of the 20 divisions of the state being again divided into 13 parts.

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In a cosmical state like this in which each individual not only felt himself to be a unit and a microcosmos, but also an indispensable part of a living organism, under the form of which the state was symbolized, its inhabitants, leading lives regulated by a calendar based on the phenomenon of circumpolar rotation, under a chief ruler entitled the "Four in One," assisted by four sub-rulers, must indeed have felt that they "lived, moved and had their being" in the Teotl or Theos, imagined as the embodiment of the four elements. In this connection it is interesting to learn that "the animal" itself, of Plato, is

considered by eminent authorities to have been the tetrad.

In Zuñi, where, at the present day, each individual feels himself identified with some part of the body of a quadruped, his clan totem, the conception of the state as "a living animal," is an actual reality. Their pueblo moreover represents a $6+1=7$, or a "seven in one," the miniature counterpart of the far distant Ooraon village of Chota Nagpore and of the ancient archaic kingdoms of India, Persia, Babylonia, Egypt, Greece, Rome, etc. Anciently the Zuñis called themselves the Ashiwi, a name remarkably like that of the Ashvins, derived from the Akkadian ash = six.

I revert again here to the following landmarks, which may perhaps furnish a useful "working hypothesis" for future investigation. In Mexico the pyramids of Cholula and of Teotihuacan seem to render testimony of the, possibly consecutive, establishment of ideal states amongst tribes "capable of subjection" by Toltecas, or "Master-Builders," who, according to their method, used the building of a great structure, requiring time and united labor, as a means of organizing a new community or colony. It may be that the period of their completion coincided with the establishment of the Calendar system, beginning with the number one.

In my Preliminary Note on the Ancient Mexican Calendar System (Stockholm 1894), I demonstrated how, by reconstructing the Calendar cycles, it was possible to determine exactly when the native system was adopted. According to my demonstration, which has now stood unchallenged for six years, a fresh year cycle began in 1507 A.D., with the year sign II Acatl and the day 2 cipactli. For a cycle to be associated with the number two it is obvious that it must have been preceded by a cycle ruled by number one, therefore it may be safely inferred that the cycle II Acatl that commenced in 1507 followed a cyclical period of $4\times13=52\times20=1840$ [pg 530] years

(p. 32). Accordingly the date when the Mexican system was instituted in the form which existed at the time of the Conquest, may be fixed as corresponding to the year 467 of our era.

Considering that the Calendar system was, however, but one part of the machinery of government, was inseparable from the organization of tribes, classes and individuals, and that its institution signified the foundation of a state, it is remarkable to ascertain that, but 137 years previously, Constantine, in A.D. 330, had instituted the empire of New Rome, on precisely the same numerical basis as that of the Mexican Calendar, and divided it into 4 parts or prefectures, each subdivided into 13, yielding a total of 52 prefectures. Moreover, as far back as the institution of the Kleisthenean democracy, the Greeks had been familiar with an extremely intricate and close union of calendar and government system, such as existed in Babylonia-Assyria and, as I have shown, in ancient Mexico.

It is certainly suggestive that the period of 137 years, which elapsed between the establishment of New Rome on a partly revived and partly amended or remodelled plan, and the foundation of the great democracy of ancient Mexico at the date inferred, is unparalleled in the history of mankind for religious persecutions, carried on in Egypt, Greece and Rome, following upon three centuries marked by the growth and spread of Christianity and the persecution of its followers, the destruction of Jerusalem and the persecution of the Jews. It was in A.D. 379 that Theodosius, the Greek, proclaimed Christianity the religion of his empire and instituted a relentless persecution of the Arians and followers of the ancient Egyptian religion.

Under Arcadius, Emperor of the East (A.D. 395), the Anthromorphites, who affirmed that God was of human form, destroyed the greater number of their opponents. Under Marcianus (A.D. 451), Silco invaded Egypt with his

Nubian followers and the Council of Chalcedon condemned the Monophysite doctrine of Eutyches. Later, under Justinian (A.D. 527), the Monophysites separated from the Melchites and chose their own patriarch, being afterwards called Copts.

It is impossible to close one's eyes to the fact that, during this period of persecution and massacre, imminent peril of death must have forced many a band of the priests and followers of the ancient Egyptian and other religions to seek safety in flight. The [pg 531] events which took place in Egypt between A.D. 379 and 451, culminating in Silco's invasion, must unquestionably have been deeply felt by the descendants of the ancient Phœnician, Carthaginian and Grecian exiles, fugitives and mercenaries who, during countless centuries, had founded colonies along the Libyan coast, and pushed migration further westward along the coast line. Migrations from these regions would doubtless have resulted in the remarkable combination of archaic star, fire-drill and socket worship found in Yucatan and Mexico, existing alongside of a highly developed and perfected philosophical scheme of social organization identical, in principle, with that which, in the Old World, constituted an ideal which was the result of centuries of experience and active intellectual life.

The present investigation, in which I have collected more material than it has been possible to present in this publication, brings out facts tending to show that, originally, both hemispheres were peopled from the North, and that, in antiquity, at intervals, an extremely limited intercourse was kept up between the Old and New Worlds. The obvious fact that navigation must have been seriously impeded by the interregnum of Polaris, lasting for many centuries, would explain a prolonged isolation of America anterior to the Christian era. Whereas the equatorial currents facilitated the voyage to America, the same favorable conditions did not accompany navigation in the same latitudes in a reverse direction, and this

suggests the probability that few who set out for “the hidden land,” ever returned to the port whence they sailed. Investigation seems to reveal that influences, emanating from the most ancient centres of Old World civilization, reached sundered regions of America at different times, and that they could have been carried there by a seafaring and building race such as the Minyans, the Magas, the Phœnicians or their descendants.

If such were the case it would be reasonable to expect that, in America, traces of words associated with the archaic set of ideas would be found, and the same method of writing. Let us now refer with prudent reservations as to the possibility of their being accidental, to the striking resemblances which undoubtedly exist between certain names for God, Heaven, North, Middle, etc., in the languages of the most ancient civilizations of the Old World and the Maya and Nahuatl. For convenient reference and without detailed comment, these words are presented as Appendix III.

[pg 532]
Too much importance must not, of course, be given to these linguistic analogies; at the same time we cannot shut our eyes to the fact that these broken fragments of language, traceable to India, Babylonia-Assyria, Egypt and Greece, are found, in America, clinging tenaciously to a set of cosmical ideas and a scheme of organization identical in both hemispheres.

It has been surprising to me, for instance, to learn, by carefully collecting facts, that whereas Professor Sayce tells us that the supreme god of the Phœnicians was named Yeud or Ekhad, the supreme god of the Mexican Chichimecs (literally, Red race) was named Youalli-Ehecatl, which signifies, literally, night-air or wind. I likewise ascertained that, whereas the word yau or yu signifies the source or origin in Chinese, is linked to a character forming a cross and is homogeneous with Yaou Sing, a star in Ursa Major, described as “revolving,” the

Mexican name for the pole-star god was Yaual or Yohual Tecuhtli, the lord of the circle or of the night.

Again there is a remarkable similarity between the Mexican yaualli = circle and the verb yoli or yuli = to resuscitate or vivify; the Chinese ui = to turn around, and the Scandinavian yul, yeul or yol = wheel, also the festival of the winter solstice, when nature seemed to resuscitate. Whereas the significance of the above Mexican, Chinese and Scandinavian names, is clear, no meaning has, to my knowledge, been attached to the Semitic name for the supreme god, which, as Professor Sayce informs us, was pronounced Yahu or Yaho or Yahve (see Appendix, list 1).

Other striking resemblances are found between the names for handicraftsman and master-builder in widely distant countries. Thus, in Phrygia, we have the Daktuloi, the builders who erected monuments decorated with cross-symbols arranged so as to form a geometrical design, such as represented in fig. 72, 2. In Oaxaca the Toltecatl = builders and handicraftsmen, erected the walled temple and cruciform structures at Mitla, and decorated them with geometrical designs.

Reliable authorities teach us that "the Hittites were the northern minyan or menyan = measurers, a building race" (Hewitt); that Aha-Mena, the first historical ruler of Egypt, was a builder; that the name of Amun, the god of the Ammonites, signified "the builder." Dictionaries reveal that, in America, Maya-speaking people designated a master builder or handicraftsman as ah-men, or [pg 533] menyah which, in Nahuatl, became amanteca. In Yucatan the name for North was Aman or Xaman; the building race of civilizers seems to have been associated with that region, which the Arabians named Shamaliyy. In the Babylonian-Assyrian Shamash, the Sanscrit Brahman and the Egyptian Amen-ra, we seem to have but different forms of the same word, which recurs in the Akkadian-Sumerian Sama, or an = the revolving heaven

(see Appendix, list).

It is to philologists that I refer the question whether the resemblances, in sound and meaning, of certain words I have found associated, in widely sundered countries, with the universal cosmical set of ideas, are merely accidental or whether they furnish indication of a remote common origin or of contact at a later period. It will interest me particularly to learn their opinion as to the oldest forms of the words; and whether there is really no clue to the meaning of the Hebrew Yahu and the Phœnician Yeud-Ekhad. One is tempted to inquire whether the Chichimecan Youalli-Ehecatl was not the same and whether this and other analogies do not constitute evidence tending to establish that Mexico was a Phœnician colony in which during centuries of isolation the archaic forms and meanings of Phœnician words were preserved.

It is my hope that these lists will be carefully examined and explained by competent authorities, to whose judgment they are respectfully submitted. Whether they will be accounted for in one way or another, these lists will be found to establish the existence of striking resemblances which, by themselves, might not carry weight, but which unquestionably gain in significance when found in conjunction with cosmical conceptions, social organization, forms of architecture and cross-symbolism, which appear universal.

A few words here concerning the undoubted general resemblances that exist between the Chinese and Japanese, and Central American methods of organization —resemblances which even extend to certain words directly traceable to Western Asiatic influence in the case of the Eastern Asiatic civilizations. The existence of marked differences between the Chinese and Maya-Mexican numerical systems and determination of elements, appears to exclude the possibility that dominating Asiatic influences could have reached

America *via* China and Japan after the still existing, crystallized forms of government and calendar had been established in the latter countries. As far as I can judge, the great antiquity attributed, by Chinese historians, to the establishment of the governmental [pg 534] and cyclical schemes, still in use, appears extremely doubtful. Referring the question to Sinologists, I venture to ask whether it does not seem probable that the present Chinese scheme dates from the lifetime of Lao-tze, in the sixth century B.C., a period marked, as I have pointed out, by the growth of Ionian philosophy, one feature of which was the invention of numerical schemes applied to "divine polities" and ideal forms of government. Future investigation may, perhaps, prove that "the powerful mental ferment" alluded to by Huxley, as spreading between the eighth and ninth centuries B.C., over the whole of the area comprised between the Ægean and North Hindustan, was caused by the growth and diffusion of plans of ideal states, which would naturally suggest and lead to the formation of bands of enthusiasts, who would set out in search of districts where they could carry out their principles and ideals.

Personally, I am strongly inclined to assign the origin of the Chinese and the Mexican schemes, which are identical in principle, to the same source, and to believe that they were carried in opposite directions, at different periods, by seafarers and colonists, animated by the same purpose. Favorably established in distant regions, both grew and flourished during centuries, constituting analogous examples of an immense, submissive, native population living under a highly perfected, artificial, numerical, scheme of religious government, preserved intact and enforced by a ruling caste, who possessed superior knowledge and claimed divine descent.

It is, of course, to Chinese and Japanese scholars and to archaeologists, some of whom constitute the able staff of the Jesup Expedition, who are investigating the question of Asiatic contact, that I look for further information and

enlightenment as to prehistoric contact between China and America.[157]

The foregoing investigation seems to have shown that in all [pg 535] countries alike, at one period or other, the cross-symbol or swastika expressed absolutely the same meaning. Primarily the record of a year, which suggested the division of the heaven into four parts, it had come to signify the establishment of communal life on a basis of fixed law, order and harmony. Like the number four itself which, in Pythagorean philosophy, is identified with wisdom and justice "because it is the first square number, the product of equals," the cruciform symbols have been the emblems of justice, equality and brotherhood.

From the dawn of human history, the cross, therefore, appears to have expressed a plan as simple as it was noble and great, which consisted in peaceably uniting men, on principles of good-will, peace, equity, equality and mutual help, of instituting and organizing communal life, and of regulating its activity in accord with the immutable laws which govern the movements of celestial bodies, causing the circumpolar constellations to assume opposite positions, forming the sign of the cross, and marking seasons, days and years, all testifying to the existence of a single, all-ruling, all-pervading, stable [pg 536] and eternal central power, who thus controlled not only the heavens but, by a human representative, the earthly kingdom, laid out on the celestial plan.

Considering that no less an authority than St. Augustine has asserted “that which is now called the Christian religion existed among the ancients, and in fact was with the human race from the beginning,” it is permissible to ask whether the above scheme does not strikingly substantiate his dictum, afford a deep view under the surface of accumulated dogma and a perception of the mighty principle that has been at work from the beginning of all things and was understood by many at that time when “the people that sat in darkness saw great light, and to them which sat in the region and shadow of death light sprang up.”... “From that time Jesus began to preach and say, ‘Repent: for the kingdom of heaven is at hand’ ” (Matthew IV, 16, 17). Adopting the cross as the emblem [pg 537] of his earthly mission he said: “If any man will come after me, let him take up his cross and follow me.” By the words: “I bear in my body the mark of the Lord Jesus,” St. Paul designates the recognized “mark” to have been the quadruplicate cross of the Saviour, who charged his apostles to preach, saying: “the kingdom of heaven is at hand” and promised them that “ye which have followed me in the regeneration, when the Son of Man shall sit in the throne of his glory, ye also shall sit upon twelve thrones, judging the twelve tribes of Israel” (Matthew XIX, 28). The mother of Zebedee's children came unto him asking that her sons might sit “the one on thy right hand and the other on thy left, in thy kingdom” (Matthew XX, 20). Repeatedly, the Teacher, referring to children, said “of such is the kingdom of heaven,” or “Except ye be converted and become as little children ye shall not enter into the kingdom of heaven.” St. Paul and his followers were designated as “those that have turned the world upside down ... doing contrary to the decrees of Cæsar, saying that there is another king, one Jesus” (Acts XVII, 6 and 7).

It is well known that the early Christian church was persecuted because, from the first, it preached a total regeneration of human society and its reëstablishment of a basis of peace and good-will, social equality, absolute justice, mutual aid, respect and sympathy, unselfish, disinterested subservience of the individual to the interest of the community.

It was for the sublime principle of a religious democracy and the regeneration of human society that, in an age of tyranny, oppression and bloodshed, the early Christian martyrs laid down their lives. The foundations of religious orders were as many attempts to realize the Christian ideal, and to this day the Roman Catholic Church, whose clergy and religious orders unquestionably afford a splendid living example of devotion to a common cause, self-abnegation, obedience and humility, clings to the ideal of a state in which temporal power is wielded by a hierarchy raised to rulership from all ranks, merely by virtue of personal, moral and intellectual qualities. Throughout the Christian church the ideal of religious democracy prevails. Each day it is prayed for in the words "Thy kingdom come," by those taught to look forward to the promise of the time when "former things are passed away and a holy Jerusalem shall descend out of heaven from God, lying four-square, with twelve gates, and at the gates twelve angels and names written [pg 538] thereon which are the names of the twelve tribes of the children of Israel ... and the wall of the city had twelve foundations and in them the names of the twelve apostles of the Lamb,.... And I saw no temple therein, for the Lord God Almighty and the Lamb are the temple in it ... but the throne of God and of the Lamb shall be in it.... And he showed me a pure river of water of life, clear as crystal, proceeding out of the throne of God and of the Lamb. In the midst of the street of it and on either side of the river was there a tree of life, which bore twelve manner of fruits and yielded her fruit every month ..." (Revelation, chaps. XXI and XXII).

It appears significant, in the light of the present investigation, that the birth of Christianity, as well as the revival of pagan systems of philosophy, embodying principles for the organization of religious brotherhoods and ideal democracies, should coincide with the spread of the great tidings that a star had been seen by the Magi, or "wise men of the East, who came *from the east* to Jerusalem." Occurring, as it did, after "the interregnum as regards pole-stars," during which nomadic tribes and seafarers had vainly sought the fixed star which had guided their forefathers, the appearance of a brilliant pole-star must have seemed doubly significant and revived, among pagan philosophers, the ideal of an earthly kingdom ruled by Heaven. The advent, at this time, of the Messiah who, with his twelve disciples, announced that the kingdom of heaven was nigh and taught that God was to be worshipped in the Spirit only, must indeed have appeared particularly impressive and well-timed.

Faithfully clinging to the ideal of a regenerated religious democracy, the early Christian church maintained itself through centuries of persecution and is slowly advancing, amidst almost overwhelming and innumerable difficulties, towards its realization.

Returning to Mexico we find that its civilization at the time of the Conquest was precisely what might be expected if a small body of men of superior wisdom and experience, such as was possessed by a remnant of Græco-Egyptian philosophers, had embarked in ships manned by the descendants of Phœnician seafarers, and found refuge in the "land of the West," amongst simple, docile people, existing in large numbers, who, treated "as little children and instructed with love and gentleness, willingly submitted themselves to the guidance of their teachers." A single, short-lived generation [pg 539] of these would have amply sufficed for the establishment of the governmental system and calendar, the firm institution of a "celestial kingdom," and the spread of knowledge of the

technique of various arts and industries deemed most useful to the natives. On the other hand, the foreign element, whose aims were chiefly ideal, could have left little or no impression upon the evolution of the native race, its art and industry, which doubtlessly followed its original independent line of development.

It is remarkable how the echo of great events in Old World history seem to have reached the Western hemisphere. In the Old World the eleventh and twelfth centuries were marked by a revival of religious enthusiasm, by the Crusades, the persecution of infidels by the Christian world and by a general stirring amongst oriental people, the descendants of the ancient pole-star worshippers.

Historical records and traditions accord in stating that in about the eleventh and twelfth centuries of our era, the civilizations of Mexico, Yucatan and Central America underwent a great period of warfare, pestilence and famine, leading to the disintegration of the great ancient centres, to numberless migrations, and to an assumption of dominion in Mexico by a fierce warrior-race who increased the number of human sacrifices. It seems significant that it is to this troublous period in the history of ancient America that the advent of the Incas in Peru is assigned by native tradition, which also records the existence of more ancient centres of civilization situated around the Titicaca lake. The foundation of the Inca empire is assigned to as late as about 1200 A.D. (see p. 148, note 1), and all who compare Plato's scheme for the reëstablishment of the holy polity of the Magnetes, and the description of the Peruvian “Four in One” state, must admit that the latter constitutes the most perfect example known, of a community based on those numerical principles which were considered most perfect by Plato. At a first glance one might be tempted to conclude that the foreign civilizers of Peru, the Incas, were acquainted with Plato's twelve-fold scheme and deliberately established or reëstablished a “divine polity” accordingly,

naming it the “Four in One” and instituting the worship of a supreme divinity designated as “Earth, Air, Fire and Water in One,” in consonance with the cosmical theory said to have been first formulated by Empedocles about B.C. 444, and adopted by Plato. Reflection shows, however, that no such conclusion is justifiable until competent authorities have thoroughly [pg 540] investigated and satisfactorily established how far the ideas of Empedocles and Plato were original and how far they incorporated older philosophical ideas, such as were preserved by the Egyptian priesthood or had been disseminated by the Phœnicians.[158] Nevertheless it is an undeniable fact that the Inca colony constitutes a most valuable object-lesson of a “cosmical state” founded on precisely the numerical scheme and principles of organization advocated by Plato. Reflection shows, moreover, that such a polity could only have been established and maintained itself during centuries, in a land free from enemies and amongst docile people “apt for subjection.”

A significant result of a critical comparison of the celestial kingdoms of Peru and Mexico is the perception that, in the former, as in Egypt, a hereditary sovereignty was exercised by male and female sacerdotal rulers of a “divine line of descent.” On the other hand we find, in Mexico, a state of affairs in exact accordance with Montezuma's account of the behavior of his predecessors towards the lord who had led them and presided over the foundation of the Mexican empire. During his absence they, his vassals, established democratical principles and when he returned, having intermarried with women of the country and founded new cities, they refused to recognize his authority and let him depart. From Montezuma himself we learn that, although they thus emancipated themselves from their former lord, they continued to regard themselves as dependent and owing allegiance to the mother-city whence they had come. Until the time of the Conquest, however, they [pg 541] were governed by rulers whom they elected, and who had

risen in rank merely by virtue of their moral and intellectual distinction.

It is indeed deeply suggestive and impressive to realize that, in antiquity as in modern times, the American Continent seems to have been sought, as a place of refuge, by men whose ideals have been state institutions founded on democratic principles. The ancient polities of Mexico and Peru and, what is more, the archaic Pueblos of to-day, alike furnish examples of conditions, such as undoubtedly existed in Mediterranean countries in ancient times and inspired Greek statesmen and philosophers to plan ideal polities, and must have preceded the creation of the Jewish and early Christian spiritualized ideal of a New Jerusalem, pervaded throughout by the Divine Spirit. In conclusion, there are a few points which I recommend to the consideration of students. Different writers have, as Prescott summarizes, with certainty discerned in the highest American civilizations, a Semitic or an Egyptian or an Asiatic origin.

This remarkable combination of features, distinctively characteristic of the said civilizations, actually existed amongst the Phœnicians who, as Professor Sayce relates, were allied to the Semitic race, were affected by contact with their cousins the Arameans or Syrians, penetrated to the coast of India, derived their art from Babylonia, Egypt, and later from Assyria, and "knew how to combine together the elements it had received and to return them, modified and improved, to the countries from which they had been borrowed." In the case of India and China it is an established and accepted truth that an active communication existed between these countries and Asia Minor, which was carried on by a race of seafarers and colonists. When it is realized that, through them, distant regions became known and accessible, and that at one time in the history of Greek philosophy, for instance, statesmen, philosophers and mathematicians alike rivalled each other in planning ideal states, based on the identical principle: the harmonizing of human life with

Nature's laws; it seems but rational to infer that, at different times, bands of enthusiasts, adopting one numerical scheme in preference to another, and led perhaps by its inventor or disciples, set out in search of distant countries where they could undisturbedly establish "celestial kingdoms" according to their ideal plan. To such an enterprise as this I venture to assign the establishment of the celestial kingdom of China, drawing [pg 542] attention to Biot's statement, cited on p. 298, that year cycles (*i. e.* the sociological and chronological system since in use) were introduced there from India, after the Christian era. This being the case, contrary to the claims of a much greater antiquity by Chinese scholars, the present form of the "celestial kingdom" appears to date from the arrival in China, from Persia, of Semitic emigrants, during the first century of our era (see p. 303), and to have undergone a certain re-modelling in the first half of the sixth century, after the arrival of a band of Syrian Christians (p. 304).

Pointing out that these dates would make it appear as though the cyclical systems of India and Eastern Asia had been formulated under the direct or indirect influence of Greek philosophy, I observe that the date of their introduction and establishment assigns them to approximately the same period which produced the numerical scheme adopted by Constantine, Maya and Mexican calendrical and chronological scheme. At the period when Constantine established New Rome and instituted four divisions of the empire, each divided into thirteen yielding a total of fifty-two prefectures, there lived in Byzantium a philosopher and rhetorician (315-390 A.D.) whose name was Themistius and who filled the office of prefect of Constantinople. It is well known that the attempt thus to organize the empire proved fruitless and that the proclamation of Christianity as the religion of his empire by Theodosius I (379 A.D.) inaugurated a prolonged persecution of pagan religion and philosophy (see p. 530).

Is it inadmissible to consider at least the possibility that, disappointed and driven from their land, some of those who clung to the ancient ideal, and were acquainted with the perfected scheme of state organization instituted by Constantine during the lifetime of Themistius, carried it at a later period, to the "hidden land" of the West and established it there, where it was preserved intact until the time of the Spanish Conquest? Is it by accident only that one of the names of the capital of ancient Mexico, as preserved in the writings of Cortés and Bernal Diaz is Temistitan, literally "land of Temis," the Nahuatl language not furnishing any meaning to the latter word? Can it be that, just as the word Teotl, resembling Theos, is found on Mexican soil, employed with the same meaning as in Greek, the name Temistitan means "the land of established law, order and justice" dedicated to the Greek Themis, just as New Rome was dedicated to Sofia = Wisdom? Or [pg 543] did some sort of connection exist between the name of the Mexican capital, the system on which it was established and the philosopher Themistius?

Is it by chance merely that the state calendar of Temistitan was based on $4 \times 13 = 52$ divisions, and that Themistius of Byzantium, a member of that school of philosophy which had evolved numberless plans and numerical schemes for ideal states, should have held one of the $4 \times 13 = 52$ prefectures during Constantine's reign? In order to make the most rapid advance towards a solution of the great problem of the origin of American civilizations, I venture to suggest that Orientalists and Americanists should combine and freshly study it from opposite points of view. One side might be taken by those who incline to admit the possibility that a few Phœnician traders discovered the American continent in ancient times and that, subsequently, those to whom they imparted their discovery and their successors, the daring Greek navigators, conveyed thither, at intervals, bands of refugees or enthusiasts who braved danger and death, in the hope of reaching the blessed land where, free from

persecution, they could found ideal democracies or divine polities.

Besides studying and adding to the numberless similarities which have been cited by so many different authorities and to which I have added a modest contribution, let them produce evidence showing the improbability that the identical forms of cult, religion, social organization, calendar cycles and numerical schemes should have been independently evolved two or more times by distinct races. On the other hand, let those who hold the view that American civilization was purely autochthonous, advance grounds for the supposition that it developed a school of philosophical speculation and that America produced its Empedocles and its Plato. Let them also formulate the psychical law which caused the American race to formulate the four elements, recognized as such by the philosophers of India and Greece, and not the five of Chinese philosophy; and to evolve numerical schemes applied to social organization, identical with those current in India, Western Asia and the Mediterranean countries, but different from that employed in China and Japan. It will also be incumbent upon them not only to disprove American traditions, which record the introduction of a higher civilization and plans of social organization by strangers, but also to demonstrate that, although in ancient times, Phœnician [pg 544] traders carried on an active traffic with Britain, daring the perils of the Bay of Biscay, they could not possibly have ventured across the southern Atlantic, even in the most favorable seasons. It has remained a source of sincere regret to me that circumstances prevented my attending the Orientalist Congress which met at Rome, in October, 1899, under the presidency of the illustrious Count Angelo de Gubernatis, to whom credit is due for having first suggested and planned that a section of the Congress should devote itself to the discussion of prehistoric contact or connection between the Old and New Worlds.

With an apology for my non-attendance and consequent failure to aid in organizing the section and carrying out a plan which met with my enthusiastic approval, I venture to submit the present investigation to the President and officers of the Orientalist Congress with the earnest hope that it may contain material and suggestions for fruitful discussions during the next Congress held, and that these may be carried on in a section devoted to the consideration of facts relating to prehistoric America and its relation to the Old World.

SUMMARY AND CONCLUSION.

In the preceding pages the view is advanced that the ancient cross-symbol or swastika was first used by man, presumably in circumpolar regions, as a record of the opposite positions assumed, by circumpolar constellations, in performing their nocturnal and annual circuit around Polaris. Employed as a year sign in the first case, the cross or swastika later became the symbol of the Four Quarters, of quadruplicate division and of a stable central power whose rule extended in four directions and controlled the entire Heaven.

At some remote period of antiquity man developed the idea of social organization and, in India, ancient Egypt and Babylonia-Assyria, actual proofs exist that the earliest cities and states were divided into four quarters, a division involving the distribution of the population into four tribes under a central chief. Wherever this division was carried out, it represented an attempt to harmonize human society and the establishment of the ideal of a religious democracy, founded on principles of law, order, justice, peace and good will. The pyramid, a primitive form of which consisted of four stories, and cruciform sacred structures, may be regarded as [pg 545] monuments commemorating a cosmical and territorial organization into four parts. The more extended conception of seven directions in space, consisting of the Above and Below, or Heaven and Earth, the Four

Quarters and the sacred Middle, the synopsis of all, was also evolved. In the confederations of India and Iran, and Arabia, in the seven-storied towers of Babylonia, and in the division of the Egyptians into seven classes, we find the earliest traces of a practical application of this numerical division.

The ancient historical records of Egypt and Greece reveal that, in the earliest polities, the population was divided into groups consisting of a fixed number of individuals, officially represented by chieftains, or officers of the state, and that, in consequence, a state formed a unit, constituted according to a mathematical scheme, which was also applied to the regulation of time. Each officer of the state held office for a fixed term, in a prescribed order of rotation. The year was divided into a fixed number of seasons, marked by the positions of a circumpolar constellation, and this therefore appeared to regulate not only the cycle of time but the governmental rotation of office and the entire activity of the community. Starting from a common basis of quadruplicate division in different countries, a great variety of constitutions of state was independently invented by statesmen and philosophers, who devised cycles produced by different combinations of numbers and signs, the object being to regulate time and communal life in imitation of the law, order and harmony existing in the motion of the stars and under the guidance of a supreme ruler, the earthly representative of Polaris.

The origin of these ideas and governmental scheme, in the Old World, is assigned by competent authorities to a northern race which had discovered the art of fire-making and evolved a religious cult and ritual suggested by it, in association with pole-star worship. Their civilization is supposed to have been developed by contact with a southern race, in Phrygia, and to have been carried at a remote period by their seafaring descendants to India, Asia Minor, Egypt and beyond the pillars of Hercules, to European countries, situated on the Atlantic.

The present investigation brings into prominence the fact that, just as the older Andean art closely resembles that of the early Mediterranean, an observation first made by Prof. F. W. Putnam,[159] [pg 546] so the fundamental principles, numerical scheme and plan of the state founded by the foreign Incas in Peru, resembled those formulated by Plato in his description of an ideal state.

It is a remarkable fact, on which the writer lays utmost stress, that, whereas there is a marked difference between the Chinese and the Mexican and Peruvian divisions of the elements and numerical cycles, the American systems exactly agree with those propounded by Greek philosophers and said to have reached them from more ancient centres of culture, presumably through the Phœnicians. On the other hand, there undoubtedly exist remarkable analogies between the Chinese and Hindu and Mexican sociological, chronological, cyclical systems, their principles being precisely the same. These close analogies as well as the marked divergences which have been noted can only be satisfactorily accounted for by the assumption that each of these countries derived their civilization from the same source. Over and over again different writers have pointed out undeniable analogies and resemblances between the highest forms of American civilization and that of China, India, Asia Minor, the Mediterranean and Western European countries. At the same time modern research has shown that the seafarers, whom we shall conveniently designate as the Phœnicians, acted as the intermediaries of ancient Old World civilization and formulated a culture which incorporated and formed a curious compound of elements drawn from different countries and people.

While investigation, moreover, reveals that the conquest of Phœnicia and intermittent periods of warfare and persecution directed against the religion and democratic principles of its people, must have furnished the most powerful incentive for them to extend their voyages of discovery and seek distant lands where colonies might be

established. It is obvious that, if safe places of refuge were found, their existence would remain a secret and that, in course of time, a complete isolation of distant colonies would result.

Considering that it would be premature to formulate a final conclusion on a subject which demands so much more investigation, I merely observe here that, as far as I can see, the conditions which existed and survive amongst the aborigines of America would be fully accounted for by the assumption that they received certain elements of culture and civilization from Mediterranean seafarers who, at widely separated, critical periods of Old World [pg 547] history, may have transported refugees and would-be colonists or founders of ideal republics and "divine polities" to different parts of the hidden or divine land of "the West," the existence of which was known by tradition to the Egyptian priesthood.

Under such circumstances it is apparent how the American Continent could have become an isolated area of preservation where archaic and primitive forms of civilization, religious cult, symbolism and industries, drawn at different epochs, from various, more or less important centres or from the outposts of Old World culture, would be handed down, transformed through the active and increasing influence of the native elements. The latter must always have been markedly predominant since it must be assumed, if at all, that the number of individuals who reached America, and the subsequent duration of their lives, must have been extremely limited. What is more, as Montezuma related that the colonists, from whom he descended, married native women, it is obvious that, from the outset, foreign and native influences were combined.

There was one main element, however, underlying both foreign and native civilizations, which formed the basis of both, united and made them as one, namely, the

recognition of fixed immutable laws governing the universe, attained, by both races, by long-continued observation of Polaris and the "Northern" constellations.

To me the most precious result of the preceding investigation is the gradual recognition that the entire intellectual, moral and religious evolution of mankind has been the result of the fixed laws which govern the universe. From the time when our world began to revolve in space, at intervals, a luminous point of fixity in space has existed and an unknown force, irresistible as that which controls the magnetic needle and gyrostat,[160] appears to have raised [pg 548] the mind of man from ignorance and darkness and guided his footsteps towards a higher scale of existence and a more elevated conception of a supreme central power.

From this, amongst favored races, the higher conception of an invisible supreme deity seems to have been gradually developed by the human mind, as it rose in the scale of spiritual evolution. To many, the idea that it was the observation of the stars and the recognition of the fixity of Polaris which first led man to realize the existence of immutable laws, and of a supreme celestial power ruling the universe and to form the sacred sign of the cross, will appear as the fulfilment of the text in Genesis, which expressly mentions as the first, and therefore chief, purpose for which the lights in the firmament were created, that "they should be for *signs* and portents, for seasons, for days and years ... and for lights."

When we realize that all revolving spheres in space, and the beings that may live upon them, have been, are, or shall be subject to the same conditions as govern our tiny world, forcing their intellectual evolution to proceed in parallel lines to ours, we are compelled to recognize the existence of One Great Plan, and to render reverent homage to the Master-Architect of the Universe.

Appendix I. Comparative Table of some Quechua, Nahuatl and Maya Words.

QUECHUA.	NAHUATL.	MAYA.
hatun = great.	huey = great.	pax = name of festival in which prayers were offered to obtain abundant harvest.
pacha = time, name of annual harvest festival.	pachtli = name of annual harvest festival.	
yacu unu = water.	andatl = water.	haa = water. aak = moist. aakal = lagoon. yachhaa = canal, stream of water.
pihi-huy = first born.	pil-conetl = infant son.	

	pilli = nobleman, or son. pilhua = he who has sons. pilli = the fingers.		
all = good.	qualli = good.		
ycacha = frequentative. ahua = to spin or weave. ycacha = to spin continuously.	mala-cachoa, verb, to spin or twist or turn something around continuously. malacatl = spindle.		
ticpac = to mouth upwards. ticnu = the zenith.	lieicpac = to be on the top of something high. ticatla = midnight.		
cosca = things that are alike,	cozcatl = beads, necklace. strung precious stones, metaphorically used to designate one's children.		
maqui or maki = hand. makip- pampa = palm of hand. pampa = name for plain.	maitl = hand. macpalli = palm of hand.	kab = hand. tankab = palm of pan = affix, meaning upon, above.	
humihua = small vessel.	comitl = earthen vessel.	cum = earthen vessel. hooch = vessel in general.	
hunu and huni = a number, a division of men, ten thousand (Markham). hunu = all.		hun = one. hunkinchil = one. count = 10 × 100,000.	
palla = woman of noble birth.	tlapalli- eztli = nobility of		

blood or lineage (metaphor).

pallca = the fingers, or branches of tree (Chinchaysuyo dialect.)

tlapalli = color or dye.

tlapaloloni = worthy of being reverenced and saluted.

tlapaliui = able-bodied, marriageable young man.

atlapalli = wing of a bird, leaf of tree.

cuitlapilli, atlapalli = metaphor signifying the people and servants of the state, literally the tail and wing of a bird.

palal, pa'al, palil = child, boy, servant.

[pg 551]

It is quite obvious how this metaphor came to be employed. The words for tail and wing respectively terminate with pilli the word designating nobleman, the upper class, and palli, signifying the lower class, women, boys, servants. The head of the bird signified the chief and the two eyes and two halves of the beak conveyed the idea of duality, or two in one. There are indications that the right foot, with its four claws, symbolized the four chief rulers of the Above and the left foot the four rulers of the Below.

The control of the feet and entire body was, of course, assigned to the head. It is only when the full metaphorical significance of the eagle, as an emblem of the state, is understood, that the meaning of the eagle in the arms of Mexico and the native bird symbolism begin to become

apparent. I have shown that in Peru and Yucatan the word for head was synonymous for chief. It remains to be ascertained how far the same symbolism prevailed throughout the American Continent and whether in other cases the words for bird, wings, tail and claws are homonymous or synonymous for the state and its divisions. Amongst the Zuñis the State and entire scheme of organization is associated with the imaginary form of a quadruped and in Mexico there are indications that at one time the human form was regarded as an emblem of the State and its subdivisions. This subject is referred to more fully in the text.

QUECHUA.	NAHUATL.	MAYA.
Uira-cocha = name of mythical personage and title of Creator.	In the native harangues the Supreme Being is referred to as being like an unfathomable abyss. ixachicatlan = abyss. ixachi = great, much.	
cochca = coch- allpa = fallow land, “tierra descanso”: literally, land that is resting.	cochi = to sleep. tlacochcalli = literally house of rest, burial towers.	cuchil = place or town. ah-cuch-cab = the chief or ruler of a town or place.
collana = excellent, principal, sovereign, first and best of each species.		
collanan ayllu = royal line, name used by the	coyauac = something broad, like a spring of water or a	

Incas.
coya = princess of royal blood, virgin, queen.
hapichi = title, meaning one who gathers in the harvest. *Cf.* pixquitl = harvest, etc.
tiani = to sit down. tiyana = seat of honor such as were employed as mark of chieftainship.
huahua-tiana = matrix. tiya-chicu = to be selling something in the public square. tiyachi = to offer or place something in the public square to be sold or exchanged.
micuy = food.
in-ti or in-tin = the sun.
mitimaes = name for colonists.
tayta = father.
mama = mother.
Mama-ciuaco = name of female ruler of royal blood, mother of Inca
window[161]
tlapixqui = title of priests, literally, he who gathers in the harvest.
tiacauan = brave men, strong warriors.
tiacapan = first-born.
tiyacapanyotl = the right of primogeniture and property.
tianquiztli = market, also place or square where market was held.
tiamiquiztli = act of buying or selling.
tiamictli = merchandise.[162]
tona-ti-uh = the sun, literally, that which shines.
ce-mitime = sons of one mother.
tatli = father. ta-tzin = father, reverential form.
nantli = mother.
anantzin = reverential form.
cihuatl = woman.
mama = verb, to
pizil = to measure.
pixquitl = harvest, etc.
tialtic = appurtenance, right of possession.

Rocca.

uma = literally, head, title of priest. Ingua or Inca = title of Peruvian ruler.

theome, literally two, head, chieftain, beginning.

hool, ppool or pul, title of head priest, for instance: omeacatl, ome tochtli.

quaitl = head. in-quaitl = the head. qua = abbreviation for quaitl (see Sahagun, book IX, chap. XXIX, par. 6).

Tonapa = name of culture hero who established civilization in Tiahuanaco, erected large cross, etc., made his way to the ocean and departed.

tonal culture established civilization

pouhque = diviner or soothsayer, from verb tonalpoa = to divine by signs or count festivals by ancient calendar (Molina dictionary). *Cf.* tonal-mitl = ray of sun; literally, sun's arrow, from tona-tiuh = sun. *Cf.* tona-catzon = the ancient men, or the ruins.

ticsi = foundation.

ticsik = founder.

icxitl = foot.

icxinecuiltic = a lame person. *Cf.* name of Ursa Major.

tecci-muyu-pacha = the entire world or universe.

qua = tecciztle = literally: "heads decorated with shell." = disciples of Quetzalcoatl "who called themselves sons of the sun and

toltecas." *Cf.* Ticitl = medicine man or woman, astrologer or divines, who employed the pearl-oyster shell tici-caxitl, for divinatory purposes. yoal-ticitl = title of earth-mother, or ancestress of human race, whose symbol was a sea-snail = tecciztli.

Pacha- pachoa = verb, toam = spider.
Yachachic = title ofrule or governaman = North. ah-
Supreme Being orothers. yacana = tomen = he who
Creator translatedguide others, tobuilds. ah-
as pacha = world,govern a town, topakcah = he who
time. lead the blind.founds a town and
paccha = spider. paccamachtia = to peoples it.
yachachic = the teach cheerfully
teacher fromand with patience.
yacha = to learnamanteca = skilled
with affix chi,artisans.
means to teach,
like ru-rachi = to
cause others to
make something).
Pachacamac = title
of Creator.

pa-chac-an or pa-yaca-tecuhtli, titlebacab = title of the
cha-ca = title ofof the god of therulers of the four
officer of the Inca.travellers orprovinces or
ccapac = title ofmerchants, literallyquarters.
supreme ruler;meaning the lordchac = title of four
ccapac apu, malewho guides,assistants of high
ruler; ccapacgoverns or leads.priest.

ccoya = female ruler.

The names of his five brothers were Chiconquiauitl, Xomocuitl, Nacxitl, Cochimetl, Yacapitzauac. The sister who completed the group of seven, was named Chalmeca-ciuatl (Sahagun, op. cit. Book I, chap. XIX). This god and his six brethren, to whom the merchants offered sacrifices when they had safely returned from their perilous and long expeditions, doubtlessly were Polaris and the Ursa Minor or Major.

Appendix II. A Prayer-meeting of the Star-worshippers.

Sook-es-Shookh, on the river Euphrates, in the Mesopotamian villayet, though an interesting spot, is not an imposing or attractive place. Like most of the townlets in this part of Asia Minor, it is just a straggling, overgrown village, a few one-storied plastered houses, with flat roofs and narrow doorways, dotted here and there, a number of wattled and mud-daubed huts huddled irregularly about, a *mesjid*, of course, a khan or caravanserai, and one or two open spaces with the inevitable refuse and rubbish heaps, where a bazar or market is held on Fridays. It looks, however, picturesque and peaceful enough, as we ride into it, in the deepening twilight of a late September evening. The stars are beginning already to twinkle overhead, but there is still sufficient light left to note the strange, white-robed figures moving stealthily about in the semi-gloom down by the riverside. Clad in long snowy garments, reaching nearly to the ground, they pass to and fro near the edge of the water, some wading into mid-stream, while the sound of a strange salutation exchanged in a strange tongue, *Sood Havilakh*, strikes oddly upon the ear long accustomed to the ordinary salutation, *Selam Alekum*, of the Arab-speaking Moslemin. *Paderha Sutekh*, "their fathers were burned," cries our Persian *Charvadar* and guide in disgust, as he catches a glimpse of the white-robed figures, thus delicately hinting that they are not followers of Islam; and a Jew from Hamadan who accompanies our party, on his way to the tomb of Ezekiel, deliberately spits upon the ground and exclaims, in pure Hebrew, *Obde kokhabim umazaloth*, "servants of the stars and planets." And the Hebrew is not wrong. The forms gathering by the riverside in the twilight are those of "Star-worshippers," the last remnants of the famous magi of ancient Chaldea, and their followers, the Babylonian

adorers of the host of heaven. To the number of about four thousand in all, they still survive in their Mesopotamian native land, principally [pg 557] along the banks of the Euphrates river, where they form small village communities. They invariably keep their settlements somewhere near a stream, for their religious rites and ceremonies are preceded by frequent bathings and ablutions, and a rill of flowing water passing near or through their tabernacle or meeting-place is indispensable. Hence this edifice is always raised quite close to the river. They call themselves *Mandaya*, Mandaïtes, possessors of the "word," the "living word," keep strictly to their own customs and observances and language, and never intermarry with Moslems, who call them *Sabba*, Sabeans. Their dialect is a remnant of the later Babylonian, and resembles closely the idiom of the Palestinian Talmud, and their liturgy is a compound of fragments of the ancient Chaldean cosmogony with gnostic mysticism influenced by later superstitions. They are a quiet and inoffensive people noted, oddly enough, for the quality of their dairy produce in the villages, and for their skill as metal workers and goldsmiths in the towns where they reside. Their principal settlement is, or was, at Mardin, in the Bagdad district; but there has always been a small community of them at Sook-es-Shookh, on the banks of their favorite stream, the Euphrates.

It happens to be the festival of the Star-worshippers celebrated on the last day of the year and known as the *Kanshio Zahlo*, or day of renunciation. This is the eve of the new year, the great watch-night of the sect, when the annual prayer-meeting is held and a solemn sacrifice made to Avather Ramo, the Judge of the under world, and Ptahiel, his colleague; and the white-robed figures we observe down by the riverside are those of members of the sect making the needful preparations for the prayer-meeting and its attendant ceremonies. First, they have to erect their *Mishkna*, their tabernacle or outdoor temple; for the sect has, strange to say, no permanent house of

worship or meeting-place, but raise one previous to their festival and only just in time for the celebration. And this is now what they are busy doing within a few yards of the water, as we ride into the place. The elders, in charge of a *shkando*, or deacon, who directs them, are gathering bundles of long reeds and wattles, which they weave quickly and deftly into a sort of basket work. An oblong space is marked out about sixteen feet long and twelve broad by stouter reeds, which are driven firmly into the ground close together, and then tied with strong cord. To these the squares of woven reeds and wattles are [pg 558] securely attached, forming the outer containing walls of the tabernacle. The side walls run from north to south, and are not more than seven feet high. Two windows, or rather openings for windows, are left east and west, and space for a door is made on the southern side, so that the priest when entering the edifice has the North Star, the great object of their adoration, immediately facing him. An altar of beaten earth is raised in the centre of the reed-encircled enclosure, and the interstices of the walls well daubed with clay and soft earth, which speedily hardens. On one side of the altar is placed a little furnace of dark earthenware, and on the other a little handmill, such as is generally used in the East for grinding meal, together with a small quantity of charcoal. Close to the southern wall, a circular basin is now excavated in the ground, about eight feet across, and from the river a short canal or channel is dug leading to it. Into this the water flows from the stream, and soon fills the little reservoir to the brim. Two tiny cabins or huts, made also of reeds and wickerwork, each just large enough to hold a single person, are then roughly put together, one by the side of the basin of water, the other at the further extremity of the southern wall, beyond the entrance. The second of these cabins or huts is sacred to the *Ganzivro* or high priest of the Star-worshippers, and no layman is ever allowed to even so much as touch the walls with his hands after it is built and placed in position. The doorway and window openings of the edifice are now hung with white curtains; and long before midnight, the hour at

which the prayer meeting commences, the little *Mishkna*, or tabernacle open to the sky, is finished and ready for the solemnity.

Towards midnight the Star-worshippers, men and women, come slowly down to the *Mishkna* by the riverside. Each, as he or she arrives, enters the tiny wattled hut by the southern wall, disrobes and bathes in the little circular reservoir, the *tarmido*, or priest, standing by and pronouncing over each the formula, "*Eshmo d'haï, Eshmo d'manda haï madhkar elakh*" ("The name of the living one, the name of the living word, be remembered upon thee"). On emerging from the water, each one robes himself or herself in the *rasta*, that is, the ceremonial white garments peculiar to the Star-worshippers, consisting of a *sadro*, a long white shirt reaching to the ground; a *nassifo*, or stole, round the neck falling to the knees; a *hiniamo*, or girdle of woollen material; a *gabooa*, square head-piece reaching to the eyebrows; a *shalooal*, or white overmantle [pg 559] and a *kanzolo*, or turban, wound round the *gabooa* head-piece, of which one end is left hanging down over the shoulder. Peculiar sanctity attaches to the *rasta*, for the garments composing it are those in which every Star-worshipper is buried, and in which he believes he will appear for judgment before Avather in the nether world *Materotho*. Each one, as soon as he is thus attired, crosses to the open space in front of the door of the tabernacle, and seats himself upon the ground there, saluting those present with the customary *Sood Havilakh*, "Blessing be with thee," and receiving in return the usual reply, *Assootah d'haï havilakh*, "Blessing of the living one be with thee." The numbers increase as the hour of the ceremonial comes nearer, and by midnight there are some twenty rows of these white-robed figures, men and women, ranked in orderly array facing the *Mishkna*, and waiting in silent expectation the coming of the priests. A couple of *tarmidos*, lamp in hand, guard the entry to the tabernacle, and keep their eyes fixed upon the pointers of the Great Bear in the sky above. As soon as these attain the position indicating midnight, the priests give a signal

by waving the lamps they hold, and in a few moments the clergy of the sect march down in procession. In front are four of the *shkandos*, young deacons, attired in the *rasta*, with the addition of a silk cap, or *tagha*, under the turban, to indicate their rank. Following these come four *tarmidos*, ordained priests who have undergone the baptism of the dead. Each wears a gold ring on the little finger of the right hand, and carries a tau-shaped cross of olive wood to show his standing. Behind the *tarmidos* comes the spiritual head of the sect, the *Ganzivro*, a priest elected by his colleagues, who has made complete renunciation of the world and is regarded as one dead and in the realms of the blessed. He is escorted by four other deacons. One holds aloft the large wooden tau-cross, known as *derashvod zivo*, that symbolizes his religious office; a second bears the sacred scriptures of the Star-worshippers, the *Sidra Rabba*, "the great Order," two-thirds of which form the liturgy of the living and one-third the ritual of the dead. The third of the deacons carries two live pigeons in a cage, and the last a measure of barley and of sesame seeds. The procession marches through the ranks of the seated worshippers, who bend and kiss the garments of the *Ganzivro* as he passes near them. The *tarmidos*, guarding the entrance to the tabernacle, draw back the hanging over the doorway and the priests [pg 560] file in, the deacons and *tarmidos* to the right and left, leaving the *Ganzivro* standing alone in the centre, in front of the earthen altar facing the North Star, Polaris. The sacred book, *Sidra Rabba*, is laid upon the altar folded back where the liturgy of the living is divided from the ritual of the dead. The high priest takes one of the live pigeons handed to him by a *shkando*, extends his hand towards the Polar Star upon which he fixes his eyes, and lets the bird fly, calling aloud, *Bshmo d'haï rabba mshabbah zivo kadmaya Elaha Edmen Nafshi Eprah*, "In the name of the living one, blessed be the primitive light, the ancient light, the Divinity self-created." The words, clearly enunciated within, are distinctly heard by the worshippers without, and with one accord the white-robed figures rise from their places and

prostrate themselves upon the ground towards the North Star, on which they have silently been gazing.

Noiselessly the worshippers resume their seated position on the ground outside. Within the *Mishkna*, or tabernacle, the *Ganzivro* steps on one side, and his place is immediately taken by the senior priest, a tarmido, who opens the *Sidra Rabba* before him on the altar and begins to read the *Shomhotto*, "confession" of the sect, in a modulated chant, his voice rising and falling as he reads, and ever and anon terminating in a loud and swelling *Mshobbo havi eshmakhyo Manda d'haï*, "Blessed be thy name, O source of life," which the congregants without take up and repeat with bowed heads, their hands covering their eyes. While the reading is in progress two other priests turn, and prepare the *Peto elayat*, or high mystery, as they term their Communion. One kindles a charcoal fire in the earthenware stove by the side of the altar, and the other grinds small some of the barley brought by the deacon. He then expresses some oil from the sesame seed, and, mixing the barley meal and oil, prepares a mass of dough which he kneads and separates into small cakes, the size of a two-shilling piece. These are quickly thrust into or on the oven and baked, the chanting of the liturgy of the *Shomhotto* still proceeding with its steady sing-song and response, *Mshobbo havi eshmakhyo*, from outside. The fourth of the tarmidos now takes the pigeon left in the cage from the *shkando*, or deacon, standing near him, and cuts its throat quickly with a very sharp knife, taking care that no blood is lost. The little cakes are then brought to him by his colleague, and, still holding the dying pigeon, he strains its neck over them in such a [pg 561] way that four drops fall on each one so as to form the sacred *tau*, or cross. Amid the continued reading of the liturgy, the cakes are carried round to the worshippers outside by the two principal priests who prepared them, who themselves pop them direct into the mouths of the members, with the words *Rshimot bereshm d'haï*, "Marked be thou with the mark of the living one." The four deacons inside the *Mishkna* walk

round to the rear of the altar and dig a little hole, in which the body of the dead pigeon is then buried. The chanting of the confession is now closed by the officiating *tarmido*, and the high priest, the *Ganzivro*, resuming his former place in front of the Sacred Book, begins the recitation of the *Massakhto*, or "renunciation" of the dead, ever directing his prayers towards the North Star, on which the gaze of the worshippers outside continues fixed throughout the whole of the ceremonial observances and prayers. This star is the *Olma d'nhoora*, literally "the world of light," the primitive sun of the Star-worshippers theogony, the paradise of the elect, and the abode of the pious hereafter. For three hours the reading of the "renunciation " by the high priest continues, interrupted only, ever and anon, by the *Mshobbo havi eshmakhyo*, "Blessed be thy name," of the participants seated outside, until, towards dawn, a loud and ringing *Ano asborlakh ano asborli ya Avather*, "I mind me of thee, mind thou of me O Avather," comes from the mouth of the priest, and signalizes the termination of the prayers.

Before the North Star fades in the pale ashen grey of approaching dawn, a sheep, penned over night near the river, is led into the tabernacle by one of the four *shkandos* for sacrifice to Avather and his companion deity, Ptahiel. It is a wether, for the Star-worshippers never kill ewes, or eat their flesh when killed. The animal is laid upon some reeds, its head west and its tail east, the *Ganzivro* behind it facing the Star. He first pours water over his hands, then over his feet, the water being brought to him by a deacon. One of the *tarmidos* takes up a position at his elbow and places his hand on the *Ganzivro's* shoulder, saying, *Ana shaddakh*, "I bear witness." The high priest bends towards the North Star, draws a sharp knife from his left side, and reciting the formula, "In the name of Alaha, Ptahiel created thee, Hibel Sivo permitted thee, and it is I who slay thee," cuts the sheep's throat from ear to ear, and allows the blood to escape on to the matted reeds upon which the animal is stretched out. The four deacons go outside, [pg 562]

wash their hands and feet, then flay the sheep, and cut it into as many portions as there are communicants outside. The pieces are now distributed among the worshippers, the priests leave the tabernacle in the same order as they came, and with a parting benediction from the *Ganzivro, Assootad d'haï havilakh*, "The benison of the living one attend thee," the prayer-meeting terminates, and the Star-worshippers quietly return to their homes before the crimson sun has time to peep above the horizon.[163]

[pg 563]

Appendix III. Comparative Lists of Words.

I.

OLD WORLD.

YAU or YU = the source or origin, the Chinese character for which figures a square or circle divided into four by crossed horizontal and perpendicular lines, the latter projecting above the square or circle.[164]

YAOU and YU = mythical emperors who instituted the celestial kingdom, see p. 298.

YAOU SING = "Revolving Star" in Ursa Major. China.

UI or HWEI = verb to turn around. Chinese.

YUL, YEUL, YEOL = wheel (Icelandic hjol, O. Swedish hiugl, Swedish hjul).

HVEL = disk, orb. Iceland.

WUOTAN = ODIN = supreme divinity. Scandinavia.

JOVLA = sacred hearth fire of Northern Finns, under guardianship of mother of family.

JOVIS = Roman supreme divinity, associated with wheel.

YAHWE = Hebrew name for God, translated as "heaven," was pronounced Yahu. According to the Masoretes must be read Yeho (Yăhu). The early Gnostics wrote Iao, that is Yaho (Sayce). The four consonants yhvh, pronounced Yahveh, constituted the sacred Tetragrammaton, or four lettered name of the Most High.

Archbishop Tenison says (Idolat. p. 404): "This name was no mystery among the Greeks, as is evident from the mention of the god Ieuo in Sanchoniathon; Jaho in St. Hiersm, and the Sibylline Oracles; Jaoth or Jaho in Irenaeus; of the Hebrew God called Jaoia by the Gnostics; of Jaou in Clemens Alexandrinus, of Jao the first principle of the Gnostic Heaven in Epiphanius; the God of Moses in Diodorus Siculus; the god Bacchus in the oracle of Apollo Clarius; lastly, as was said, of the Samaritan Jabe, in Theodoret."

YEUD EKHAD = name of supreme god of Phœnicians the Red people (Sayce).

YOUALLI-EHECATL, literally, night or circling-air or wind = supreme god of the Chichimecs (see p. 33), a Mexican ruling tribe whose name signifies the red lineage or people.

YAHUAL-TECUHTLI or YOUAL-TECUHTLI = the Lord of the circle or of the Night, *i. e.* North-star god, supreme divinity. Mexico, see p. 279.

YALAHUA = Tzendal deity, p. 181.

YANAULUHA = Zuñi deity, p. 223.

{IO, IOVANA, IELLA, IOCAHUNA = names for god.
{HUIOU = sun.
{HUIOO or HUIHO = mountain. Haïti.
{YOLI, YULI = verb, to live, resuscitate, vivify.
{OLLIN = "motion." Nahuatl.
YAUALLI = to walk in a circle many times. Nahuatl.
YOUALLI = night. Nahuatl.
HUE = egg. Maya.

II.

OLD WORLD.

SHAME = heaven. Babylonian-Assyrian.

SAMA = heaven. Græco-Persian.

SAMA or SHAMA = north. Arabic (Al Kaukabal Shamaliyy = star of the North; Al Kulbal Shamaliyy = the northern axle or spindle).

AMAN = verb to sustain. Akkadian.

AMAXA = name for Ursa Major = a chariot. Greek.

SAMAS or SHAMASH = Babylonian-Assyrian god, "the universal judge," whose image was wheel with four rays (see pp. 331 and 350), *cf.* Ramman.

BAAL-SHAMAYUN = supreme god. Phœnicia.

AMASIS = Egyptian god.

KAMOSH = god of Moabites, p. 350.

HAM or KHAM = name for northern Egypt.

AMANTINI = an Illyrian tribe. Greece.

BR-AHMA = supreme god. India (*cf.* Yama).[165]

BR-AHMANAS = priestly caste. India.

[pg 565]
ARYAMAN = star-god associated with Mitra-Yaruna, Ursa Major and number seven. In Zendavesta is associated with Ashvino-ritual. India.

AMA or AME = heaven. Japan.

KAMI = deity, top, above.

O-KAMI = the honorable government.

YAMA = mountain. Japan.

YAMATO = main island of Japan.

AMA-NO-MA-HITOTSU = "Eye of Heaven," name for Pole-star. Japan.

AME-NO-MI-NAKA-NUSHI-NO-KAMI = Deity-Master-of-the-August-Centre-of-Heaven, first Japanese "hidden" god.[166]

AME-NO-TOKO-TACHI-NO-KAMI = Deity-standing-eternally-in-heaven, hidden god; *cf.* Kuni-no-toko-tachi-no-kami = Deity-standing-eternally-on-earth. Japan.

AMEN-RA = hidden god. Egypt.

AHA-MENA or MENES = historical founder of

kingdom = "the Constant One." Egypt; *cf.* menu = monuments; smen = to establish. Egyptian.

MINYŒ, MINYANS or MINŒANS = race who traced descent from Minos = the measurer (Men = measurer); great agricultural and building race in India, Arabia and Egypt. Measured time by circumpolar constellations; became confederates of Sabæans; conquered Phrygia, built Mycenæ (Hewitt).

AMUN = national god of Ammonites. Amun means the builder or architect and is, like the name of Egyptian god, formed of amān, to sustain. He was the god of the meridian and of the central house-pole, sustaining roof who, in Egypt, became Amen-ra (Sayce and Gesenius, quoted by Hewitt, *op. cit.*). The supreme god of the Ammonites was Nāgash, the constellation of Ursa Major (Hewitt).

NEW WORLD.

AMAN or XAMAN (pron. Haman) = north. Maya, Yucatan.

AH-MEN = master builder, handicraftsman; *cf.* Menah or Menyah = artificer, artisan, builder, handicraftsman; *cf.* verb men = to build, found, establish, erect, also menta'al = to govern. Maya, p. 234.

AMAN-TECA = name used in ancient Mexico to designate master-handicraftsmen, synonym of Tolteca.

AMAUTAS = name given in Peru to the "wise men" who introduced civilization.

III.

OLD WORLD.

AN = heaven, god. Babylonian Assyrian (p. 331).

[pg 566]
ANA = heaven. Sumerian, Akkadian,[167] *cf.* Akanna = Ursa

Major, Akkadian, see p. 235.

AN and ANNU = names of celestial and terrestrial sacred central cities. Egypt, *cf.* an = pillar or that which turns around. According to Flinders Petrie, the an was an octagonal fluted column with a square tenon or top.

MANU = sacred mountain situated in N. W. Egypt.

KW-AN-IRAS = sacred central cosmical division situated under pole-star, around which the six kingdoms of Iran were situated. Persia.

CANAAN = holy land, whose capital was Jerusalem.

AN-SHAN = name of ancient Persian empire.

AN-SHAR = supreme god. Assyria, *cf.* Nannar, pp. 336 and 337.

AN-SAR = transcription of Osiris. Egypt, *cf.* Anubis also Anu and Anath, Janus and Jana.

Z-AN = old Doric form of Zeus, hence Janus.

SHANG = heaven, the Above. China.

KAN = mountain, also Yo. China.

ALKAID = star in Ursa Major, also used for moon; origin of Spanish title Alcalde.

ALKABIR = the Great. Early Arabic.

KA = surnamed the Great. Kushite father of life, the hidden god who guards and distributes, at the appointed seasons, the life-giving rains (Hewitt).[168]

KA = title of Egyptian king, usually rendered by “bull.”

KHAN = a prince. Tartary.

KHAKAN = an emperor or sovereign. Persia.

HAN = name for empire. Japan, *cf.* ken, imperial domain.

HANA = flower or blossom. Japanese, *cf.* ankh = flower, Egyptian and anthos = flower, Greek.

ANGLI or ANGRIWARII = widely diffused, great northern race, mentioned by Tacitus and Ptolemy.

[pg 567]
NEW WORLD.

CA-AN = heaven. Maya, Yucatan, see pp. 278 and 288.

CANAL = Above. Maya, Yucatan.

CAN = title of culture-hero: KUKUL-CAN = the divine can, homonym of can = serpent. Maya, Yucatan.

ZIUVA-CAAN = Colony founded in Yucatan, by Holon-chan-te = Peuh.

ANAHUAC: name of Mexican empire, usually loosely translated as a = water, nahuac = by the water.

To this list should be added the following affixes or prefixes, denoting, in each case, "place, land or region of."

Egyptian: ta, for instance meh-ta or mah-ta = north; amen-ta = hidden region, N. W.

Chinese: kwan = earth, land.

Persian: Kwan-iras or Hvan-iras = the name for Iran = "land of Iran"?

Japanese: han = empire, ken = domain.

Maya: tan, for instance Aman-tan or Xaman-tan = North.

Nahuatl: an, tlan or can, "land of, also mountain."

Zuñi: wan = place of, for instance Halona-wan.

IV.

OLD WORLD.

AK = Middle. Egypt, p. 385.

AKANNA = literally "the Lord of Heaven," title Ursa Major. Akkadian, p. 394.

N-AKKASCH = title of Polaris "the serpent." Phœnicia (p. 325).

NAGASCH, NAHUSHA, or the Great Nag = the great invisible god, hidden in his ark of clouds, who reveals himself to men as the ruler of time and the orderer of the regular sequence of the phenomena of nature, and who churns, in the mortar of the heavens, the life-giving rains in which his divine spirit is infused.... (Hewitt).

NAGA, NAGUR = the rain snake, at whose summer festival called Akkhadi or Akhtuj, the Gonds worship the cart axle or akkha in a ceremony which is a reminiscence of the days when the axle was the upright revolving pole pressing out the heavenly rain. The Naga snake was the offspring of the house pole; the soul of life in the rain cloud; the heavenly snake, the great time-measurer and year god of the Hindus (Hewitt).

P-AKU = zenith. Akkadian, *cf.* Papakhu, central sacred cosmical chamber.

AKKAD = the North, name of country (B.C. 3800). Babylonia-Assyria, p. 347.

K-AKKABU = *the* star, Polaris. Babylonia-Assyria, p. 326.

AKRIS or AKROS = summit, point, supreme, most high; *cf.* ok = eye. Greek.

[pg 568]
AKRIOS = god of summit, title of supreme god. Greece.

AKA-TOS, AKA = a ship. Greek.

ACHAIIS = the Achaian land.

ACHAIANS = in Homer, the name for Greeks generally.

AKRA = Hindu village dancing and marriage ground, where sacred tree is planted and sacrifices made to it in great Naga festival (Hewitt).

AKSA = name of mosque at Jerusalem.

AKSHAFARU = point, summit. Persian.

AKAL, AKARAN = god, eternal, timeless. Zoroastrian, name of god.

H-AK-HAMANISIJA = ancient royal title. Persia.

HAK = king or regent, royal title. Akkadian, Egyptian.

AKACA = Sanscrit name for fifth element æther: (Schroeder).

AGATHON = name given by Pythagoreans to all-embracing soul of the universe.

AK or AG = verb aj, to drive, urge, impel. Sanscrit.

AGNI = god of central fire. India.

AGASTYA = star father of Dravidians. India.

CHAKRA = wheel. Sanscrit.

CHAKRAYARTIN = title, supreme ruler. Sanscrit.

AKSHA = axis or axle. Sanscrit.

AKSHIVAN = "the driver of the axle," supreme ruler. Sanscrit.

DAKSHA = the North people, also white, blessed, and the

left. Sanscrit.

TAKKAS = one of the most powerful and wealthy tribes of the Punjab, whose progeners founded the great city of Taxila, the Hindu Takkasila or rock of the Takkas, taken by Alexander the Great. Their name Takkas or Takshas means "the makers or artificers," which is connected with the Akkadian tuk = stone.... They call themselves the sons of the two Nagas or horned snake, Takht-nag and Basak-nag or "the sons of the race of artificers" ... as the sons of the all-mother Maga [the maker or kneader], they called themselves the sons of the mother-mountain.... (Hewitt).

AKHAL, AKHAL-ZIKH, AKHAL-KALAKI = names of towns. Asia Minor (O'Neil, p. 681).

ACASA or ACASE = axis or axle. Old Norse.

AKKA and UKKO = names given by Finns to mother-earth and father-heavens (O'Neil, p. 38).

NAKA = Middle. Japan (O'Neil, p. 536).[169]

HAK-KAKU = eight holy corners or points; also that which is revealed, disclosed, known, come to light. Japanese dictionary.

AKA = above, mountain, *cf.* SAKA = ascent. Japan.

AGATA = ancient name for domain or department (Chamberlain). Japan.

HAKKI = the eight diagrams, *cf.* Ya-he-koto-shiro-nu-shi-no-kami = Deity-eight-fold-thing-sign-master. Chamberlain *op. cit.* pp. 83 and 101.

[pg 569]
WAKE, WAKI, WAKU = lord, title. Japan.

KAGU = Mount Kagu in Heaven. Japan.

HAKU = white, shining. Japan.

HOKU, NE-NO-HO, KITA, KITA-NO-HO = North. Japan. *Cf.* Khita = race mentioned in Egyptian and Biblical history, and Kitai = name for China.

HOKU-SEI, HOKU-SHIN, HOKKIYOKU, North Star. Japan.

NEW WORLD.

Nahuatl.

ACACHTO = the first, at first.

YAQUE = that which has a point; a point, by extension a nose.

YACANA = to govern a town or to guide.

YACA-TECUHTLI (literally, the governing or guiding lord) = title of Polaris, *cf.* Pacha-Yachachic = Peruvian Creator, p. 159.

TON-ACA-TECUHTLI = title of Creator.

MAL-ACATL = wheel, spindle, verb malacachoa, to walk around in a circle.

ACATL = cane, staff.

CE-ACATL, OME-ACATL = titles of deities meaning One Acatl, Two Acatl.

13 ACATL = inscription on Stone of Great Plan and on image of Divine Twain (see p. 261).

ACALLI = boat, from atl = water, calli = house.

Maya.

AKAB = night.

B-AK-CAB = in a circle, around, *cf.* hab = year.

BACAB = title of four "rulers of the year," tetrarch.

AK-BAL = a vessel or pot.

C-ACAB = town, village.

B-AK-LIC = around in a circle, in the surroundings.

B-AK-TE = together.

B-AK-ACH = all, the whole.

B-AK = rock, fortification, enclosure, also bone, phallus, foundation, heron.

N-AK = throne, belly.

N-AK-LIC = at the root, on top of all.

L-AK-AN = standard, banner.

L-AK-IN = east.

K-AK = fire.

P-AC-AT = sight.

Z-AK = white *cf.* Iztac = white. Nahuatl.

V.

OLD WORLD.

MAD-HYIAS = Middle. Sanscrit.

[pg 570]
MAGHAVAN = Vedic name of Indra.

MATH = the fire-drill, from math or manth = to twirl or churn. Sanscrit.[170]

MATHURA = name of central sacred locality. India (see Hewitt, p. 214).

MAGANA = Akkadian name for the Sinaitic Peninsula.

MAGHADAS = Finnic race ruling Northern India before the Kushites.

MERU = the Middle. Sanscrit, p. 317.

MAHTA or MEHTA = north. Egyptian, *cf.* mit = death.

MED-DOS, MEDOS or MESOS = Middle. Greek.

MED-IUS = Middle. Latin.

MED-ON = Middle. Old Irish, *cf.* Medi = Tullium, centre of state.

MID-JIS, Middle. Goth.

MIODHACH = a Central Power (Joyce). Celtic.

MITRA = the god said, in Rig-Veda, "to fix times of festivals." Was associated with Varuna = night and rain god (Greek, Ouranos), with the constellation of Ursa Major and the number seven. The North was sacred to Mitra-Varuna who "maintain the invariable succession of the order of natural phenomena" (see Hewitt, pp. 144, 416 and 420).

MILKOM = god of Ammonites whose supreme god was Ursa Major.

MEDIA or MADGA = ancient kingdom whose inhabitants were allied to Persians and shook off yoke of Assyrian rule in 708 B.C.

MEDUM = site of most ancient pyramid known. Egypt.

MECCA = sacred capital. Arabia.

MY-CENAE = very ancient city in N. E. of Argolis, built upon craggy height, principal city of Greece and capital of kingdom in Agamemnon's time.

METHONE = most ancient Greek colony on Thermaic gulf.

MI-YAU-KEN: “name under which the Pole-star is worshipped in Japan in the form of a Buddha with a wheel, the emblem of the revolving world, resting on his folded hands.”[171] *cf.* Chinese.

MUKDEN = capital of Manchuria, p. 288, *cf.* Mughs or Maghadas, Finnic race ruling Northern India before Kushites, and

MANJHUS = “royal land” set apart in Ooraon villages.

MIOKEN = name of town and mountain. Japan.

[pg 571]
MIWA = sacred mountain shrine regarded with extraordinary reverence. Japan (Chamberlain).

MIAKO = ancient sacred capital of Japan, residence of

MIKO, or MIKADO = heavenly sovereign who, like the Chinese Wong or Wang = king, ruled the three powers, heaven, earth and man. The Chinese character, consisting of three horizontal lines crossed by a perpendicular line expresses also the Japanese Miko which includes males and females and is used combined with Naka = middle *i. e.*, Middle sovereign (Chamberlain).

MIHE = threefold. Japanese.

MID-KENA = cosmical central power and mountain. Old Irish.

MID-GARD = cosmical centre. Scandinavia.

MIODH-CHUARTA (pron. micorta) = Meath, centre of Irish kingdom.

MERCIA = middle kingdom of Britain.

HAR-MOED = central mountain. Isaiah XIV.

MISHKNA = name of tabernacle of pole-star worshipping

Mandaites (see Appendix II).

NEW WORLD.

MEXICO = name of capital and by extension of state.

MEK-TAN = Maya name for empire, literally: “land of Mek.”

MITNAL or METNAL = underworld. Maya.

MICTLAN = name of region surrounding pyramids of Teotihuacan.

MITLA = name of ruins in Oaxaca, Mexico.

MICTLAMPA = north. Nahuatl. *cf.* miquiztli = death.

MICTLAN-TECUHTLI = lord of the North, or underworld. Mexican pole-star god.

VI.

OLD WORLD.

I-KU or I KUU = the leader or prince, Polaris. Assyria.

DIL-GAN-I-KU = the messenger of light, Polaris. Akkadian.

KU = holy, divine (tul-ku, the holy altar). Akkadian.

KU = word of Finnic origin brought to India by Northern settlers—used by them to denote Father-god = Ukku. Uk = the great Ku = placer or begetter (Hewitt, p. 148).

KU-SHIKAS = ruling race of India, of Northern origin, known as Ashura-kushikas (Hewitt).

CHU = the brilliance or light, Egyptian.

CHU-ATEN = the central capital founded by Amenhotep.

AL-KUTB = the axle, Polaris. Arabia.

TUL-KU = the holy altar. Akkadian.

GU = the urn. Akkadian.

KUL-KUN = central cosmical mountain. China, *cf.* Sar-tuli-elli, king of the holy mound.

KURUMA = wheel, Japanese, also mawaru, from marawi = to turn, revolve.

[pg 572]
NEW WORLD.

Maya.

KU = god.

KUKUL = holy, divine (p. 69).

KUKULCAN = name of culture-hero.

KU-LEL = noble.

KU-NA = temple.

KUKUM = feather.

KUL = chalice.

CHUT = bowl, *cf.* Nahuatl cumitl = bowl or jar.

CHU-MUC = that which is in the middle or centre.

CHU-MUCCIL = Middle, centre.

CHU-MUC-AKAB = midnight.

CHU-NIL = adj. the principal.

VII.

OLD WORLD.

CITRA = bright, shining. Sanscrit.

TARA = star. Sanscrit, *cf.* Ra = god. Egypt.

SITARA = star. Hindu.

TJARA = star. Old Norse, *cf.* tar = tree.

TARA = name of central city. Old Irish.

UTTARA = North. Sanscrit.

ISH-TAR = goddess, a hymn to whom, in Akkadian and Assyrian, begins thus: "Thou who as the axis of the heavens dawnest. In the dwellings of the earth her name revolves" (Prof. Sayce, quoted by O'Neil, p. 715).

Compare with Egyptian ra = god and note that the Sanscrit uttara could have been expressed in Egyptian hieratic script by the form of eye = uta and the sign for ra *i. e.* an eye within a circle (see p. 390 and fig. 62). Also compare the Sanscrit and Hindu citra and sitara with Egyptian seb-seta "the hidden star," pictured by the turtle, sit or cit, etc. (see p. 398).

NEW WORLD.

CITLALLIN = star. Nahuatl.

IX-TOLOLOTLI = eye, employed in picture writing for star. Nahuatl, see in centre of Nahui-Ollin, fig. 2, Nos. 1 and 3.

IXUA = the birth of a plant, the germination of seed, *cf.* cihuatl = woman. Nahuatl.

IXTLI = the face. Nahuatl.

ICH = the eye. Maya.

IK = life, breath, air, wind *cf.* ecatl = breath, etc., Nahuatl, and ek = star. Maya.

KIKCOLOM = blood. Maya.

XICO = navel. Nahuatl.

[pg 573]
VIII.

OLD WORLD.

TEH-TEH = designation of the first star of the Great Bear, given in star-list in Papyrus of Ani, and the same as Te-te, the Akkadian star-god of the two foundations (Hewitt, p. 267).

TET = highly abraded form of timmen = foundation.

TEM = foundation, Egyptian (O'Neil); foundation stone (Brown). Akkadian.

TET = eternity, symbolized by stone pillar. Egypt.

A-TEN = circle or disk. Egypt.

UA-TET = Egyptian name for emerald.

THEOS = Greek name for god *i. e.* Cosmos.

THEO = descriptive of running wheel, of anything circular which seems to run around into itself.

THEORS = sacred envoys, who came for sacred festivals to Olympia or Delphi from different points.

THEMIS = law, right, agreed upon by common consent or prescription. Greece.

THEMIS = personified law, order and justice, *cf.* Artemis, the goddess to whom the seven stars of the Great Bear were sacred (Hewitt).

TEMENOS = piece of land sacred to a god, sacred precincts, precincts of temple.

A-THENA = name of Grecian capital, state and goddess, signified “Seven.”

TENOS and TEOS = names of Greek states, p. 456.

DEOTHAN = village earth-god worshipped by Brahmin priests (Hewitt).

TEEN or TIEN = heaven, god, the character for god being an upright pole or support, a “ti.” Chinese, see p. 301, *cf.* Chinese character, tien, field, representing a square divided by cross lines into four parts.

NEW WORLD.

TEM, TETEM = stone altar, foundation. Maya. p. 229.

TETL = stone. Nahuatl.

TEO-CALLI = “house of god” = temple. Nahuatl.

TEOTL = name for god. Nahuatl.

TEOTIHUACAN = site of extensive ruins. Mexico.

TENOCH-TI-TLAN = name of capital of Mexico.

TEMISTITAN = another ancient name for Mexican capital.

IX.

OLD WORLD.

ASH = number six. Akkadian.

ASHURA = trading non-Aryan races, the Hittites, worshippers of six [pg 574] gods, six seasons, of Pleiades and of Ashura Mazda, the Zend god. Established system of grouping six provinces around central royal province where king resided.

ASHVINS = stars which drove round the pole the constellations of Ursa Major and Draco, another name for

Ashura? Sons of horse (ashva), brought barley to India, drank mead (madhu); instituted the Ashva Mēdha, or horse-sacrifice of the Hindus, also used by North Germans Ugro-Finns, Scythians and Romans.

ASH, NAK-KASCH = Draco, Euphratean name for Polaris.

MASSEBA = stone pillar. Hebrew symbol, see p. 350.

ASHERAH = pole or tree, worshipped by Phœnicians and Hebrews equivalent of Indian rain-pole.

AL-FASS = axis, Arabian name for pole-star.

PHAR-ASH-AH, PARR-ASIS = Hebrew and Phœnician "guiding star," Polaris.

ASSUR = kingdom and god of Assyria.

ASAR = transcription of Osiris. Egypt (O'Neil, p. 59).

ASIA = name given by Greeks to Asia.

ASKANIOS = ancient name of Phrygia.

ASTARTE = goddess of heaven, see p. 350.

ASS or ÆSIR = Scandinavian gods.

ASSGARD = central, divine dwelling. Scandinavia.

UM-ASHI = reed shoot that sprouted when the earth, young and like unto floating oil, drifted about medusa-like. Japan. (Records of Ancient Matters, section I.)

UMASHI-ASHI-KABI-HIKO-JI-NO-KAMI = "Pleasant-reed-shoot-elder-deity," born from primæval reed-shoot.

ASHI-HARA-NO-NAKA-TSU-KUNI = Land in the Middle of the Reed plains, common periphrastic designation of Japan.

NEW WORLD.

AZTLAN = the original home of Aztec race, according to tradition.

AZTEC = name of dominant race. Mexico.

ASH-IWI = other name for Zuñi tribe (Cushing, see p. 203).

X.

OLD WORLD.

O, ON or NO = name of celestial and terrestrial capitals. Hebrew and Egyptian.

OLYMPOS = the breaker or organizer of time (Hewitt, p. 514).

KOLONH = a hill, mound, Greek; Lat. tumulus.

COLONOS = a demos of Attica lying on and around hill sacred to Poseidon.

COLONIA = a colony, the Lat. colonia.

KOLOSSOS = statue in general, *i. e.* column?

[pg 575]
OM-EL-KORA = mother of cities. Arabian, see p. 323.

OMPHALE = in Greek mythology, the fire socket, wife of Herakles, the fire drill (Hewitt).

HO = designation for directions in space. China, see pp. 285-288.

HO = acme, taken to mean the best, highest, most showy part of anything. Japanese (Chamberlain).[172]

HO = the land's acme, or a plain surrounded by mountains. Japan (Motowori).

HOM = date-palm-sacred tree. Babylonia-Assyria (Sir Geo.

Birdwood).

NEW WORLD.

HO, or TI-HOO = ancient capital of Yucatan, see p. 277.

HOM = mound. Maya.

HOMTAMIL = belly, *i. e.* omphalos.

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Note.

I am indebted to the eminent Prof. Paul Haupt, of Johns Hopkins University, for drawing my attention to the existence of an extremely important and interesting ancient map of Babylonia on an unfortunately broken and mutilated clay tablet also inscribed with cuneiform characters. This tablet is reproduced in photogravure and illustrated by a pencil drawing on pp. 100 and 101 of the Notes on "the Book of Ezekiel" (translated by Prof. C. H. Toy), which forms Part 12 of the monumental polychrome edition of the Bible, which is being edited by Prof. Paul Haupt, with the assistance of Dr. Horace Howard Furness. Although designated as a "Babylonian map of the world" it obviously represents Babylonia as a Middle Kingdom, traversed by the Euphrates and containing Babylon, surrounded by other cities situated in the Euphratean valley.

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Babylonia is enclosed in two large concentric circles representing the sea, designated in a cuneiform inscription as the "Bitter stream" or "Salt water river." Triangles extend beyond the outer circle, recalling the four "rays or spokes" of the image of Shamash (fig. 65). Cuneiform characters, in one of these triangular spaces, designate it as an island. Professor Toy states that "there seem to have been originally seven of these triangles, but most of them are broken away." In point of fact only one

of the triangles is whole, and distinct traces of three others are preserved. As the mutilated condition of the tablet forbids certainty as to the original number of triangles, I venture to point out that it seems more likely that instead of seven there were originally six triangles around the central disc and that the map of Babylonia constitutes an image of a confederated state, like those of India and Persia (see pp. 480 and 484), conceived as formed of "six dependent and allied states surrounding the seventh ruling state in the centre."

Referring the reader to p. 348 of this work where "the seven kings" of Babylon are mentioned and seven-fold organization is discussed, I merely state that the importance of the Babylonian map can scarcely be overrated as a proof of the application in remote antiquity of the cosmical scheme to territorial divisions. It will be for Assyriologists to determine for us the relative ages of the Sippara tablet (p. 332 and fig. 65, 1), and the Babylonian Map tablet and to define their respective connections with the "four regions" and "seven directions," or with quadruplicate and seven-fold schemes of organization. It is my hope that their researches will lead to definite knowledge as to the date when these cosmical schemes were employed in the Euphratean valley.

In conclusion I draw attention to the two interesting wheel-shaped maps of the world also published in the "Notes on Ezekiel" (p. 105), and the remarkable diagram (p. 197), showing the allotment of the land of Canaan according to Ezekiel. On p. 204, in the Notes of Chapter 48 of Ezekiel, there are valuable details concerning the geographical distribution of the tribes of Israel, and the position, in the centre, of the sacred reservation and the symmetrical arrangement of the gates of Jerusalem, which were associated with the cardinal points and tribal representatives.

Z. N.

Footnotes

1. The Swastika. Report of the U. S. National Museum, 1894. Washington, 1896. During the preparation of this paper I also consulted the following works, from which some forms of swastika are likewise reproduced on pl. II: Le signe de la Croix avant le Christianisme. Gabriel de Mortillet. Paris, 1866. Zur Geschichte der Swastika. Zmigrodski, Braunschweig, 1890. La migration des symboles. Comte Goblet d'Alviella. Paris, 1891.

2. I would insert here that it was only when the present investigation was almost completed, that my attention was arrested by a reference in Professor Wilson's work, already cited, to a short article on the Fylfot and the Futhorc tir by H. Colley March, M.D.

   Having succeeded in obtaining a copy of the Transactions of the Lancashire and Cheshire Antiquarian Society (vol. 4, pp. 1-12, 1886), in which it appeared, I had the extreme satisfaction of finding that a specialist working in another field and approaching the problem from another direction had come to two of the identical conclusions that I had reached in a totally different manner. This fact constitutes, in my opinion, the most powerful support of the correctness of the views we hold in common after having formed, expressed and worked them out in such a different way, as can be verified by a comparison of our two works.

   Referring the reader to his valuable and

suggestive communication to which I shall revert, I shall merely mention here that Dr. March recognizes, as I do, that the “essential suggestion [of the swastika and fylfot] is of axial rotation.” He attributes the original of the swastika to the nocturnal (not as I do, to the annual) rotation of the Ursa Major around Polaris, and likewise refers to the fact that about four thousand years ago, the circular sweep of the circumpolar constellations was far more striking than at present. After meeting on this common ground our lines of investigation part company and go wide asunder, nor am I able to follow some of Dr. March's conclusions such as, for instance, his opinion that the fylfot was a sign of a “diurnal rotation” suggested by “the rising and setting of the sun and moon when the spectator looked at them with his back to the north.” On the other hand I am indebted to him for much valuable information relating to the rune or futhorc tir, to which I shall refer later.

3.

Besides the word *coatl* = twin, the Mexicans had another term to express some thing double, in pairs. A plant with two shoots was named xolotl. Double agave plants, or maize when occasionally met with, were regarded with superstition and named me-xolotl. The pretty little parroquets, popularly known as “love-birds” from their habit of constant association, in pairs, were named xolotl. The circumstance that the term for birds'-down was also xolotl may explain why the down-feathers of eagles and other birds were employed and played a certain rôle in ritual observances. They expressed and conveyed the sound of a word which meant something double and could therefore be used to symbolize a variety of meanings relating to multiplication or propagation. That the Mexicans figuratively

connected birds'-down with generation is proven by the well-known myth of the birth of Huitzilopochtli from the union of a ball of birds'-down and a goddess named “she with the petticoat of serpents” (Sahagun, book III, chap. I).

Tufts of birds'-down figure, in the B. N. MS., on the shield of the female ancestress of the human race, one of whose numerous titles was toci, = “our grandmother,” to express which the figure of a citli or hare was sometimes employed in pictography. Of her it was said, that she bore only twins, a figure of speech meaning great productiveness, just as the female divinity is also termed “the woman with 400 breasts” (text to p. 29, Vatican Codex, Kingsborough, vols. II and V). In the text to the Telleriano-Remensis Codex (Kingsborough, vol. I, pl. 24), we find Xolotl, a deity wearing the shell-symbol of Quetzalcoatl, directly named “the god of twins.”

4.

The full meaning which may have been attached to the eye-symbol in both Nahuatl and Maya languages is set forth in the following notes which I give merely for the suggestion they convey of a deep meaning having been attached to the eye-symbol. The Nahuatl word for eye is *ix-telolotli*, but in pictography it represented the phonetic value of *ix* only. It may, therefore, have been employed as a cursive sign for face = *ixtli* and the fact that it figures in the centre of the symbol *ollin*, where a face sometimes occurs, confirms this surmise. In the Maya language the word for eye is *ich*, which is practically identical with the Nahuatl *ix*, and this enters into the composition of the following words, the meanings of which are worth considering in connection with the fact that the eye is shown to

have been employed to convey the meaning of star, in both languages: Ix-machun = eternal, without beginning, ix-mayam = forever, continuously, without interruption. ix-maxul = perpetual, without end. The fact that each of these Maya words exhibits the prefix *ix* and that an eye is employed to express this sound and stands for star, is certainly interesting, since it suggests that the natives associated the idea of eternity with the stars.

5.

This native belief is beautifully illustrated by the two "highly artistic shell-gorgets representing winged human beings," which are described and figured by Mr. Wm. H. Holmes, in Part II of his instructive and extremely useful "Archaeological Studies among the Ancient Cities of Mexico," which I have received just as this paper is going to press. I am much pleased at the possibility of drawing attention, by means of a footnote, to the interesting fact that in one gorget the human head is figured with butterfly wings, whilst in the other it is accompanied by conventionalized feathers and a butterfly wing. There can be no doubt that both gorgets are attempts to represent the resuscitated souls of departed warriors, according to the native ideas concerning them. It is nevertheless very remarkable to see actually that the ancient Mexicans employed the butterfly as a symbol of an immortal soul and had also evolved the idea of a winged head, analogous to that of a cherub, to represent a blest spirit, dwelling in celestial regions.

It is noticeable that the name of the Mexican priests was papa, which syllables are the first in the word papalotl = butterfly. It may be that a distinction was made and that the souls of the dead priests were supposed to assume the shape of butterflies or moths, whilst the warriors

became celestial humming-birds.

6. In connection with Montezuma's use of a litter it should be noticed that, in the picture-writings, only the culture-hero Quetzalcoatl and the bird god Huitzilopochtli are represented as seated on litters. The two bars of Quetzalcoatl's litter, figured in Duran's atlas (Tratado 2, cap. 1 a) terminate at each end in a serpent's head. The pair of twin serpents thus rendered, evidently convey an allusion to his name, which would be equally comprehensible in the Maya or Mexican languages. In another portion of Duran's Atlas (Trat. 2, chap. 2), Huitzilopochtli is figured as seated on a litter masked as a bird, and a finely-executed native picture of the bird-god, being borne on a litter, is in the B. N. MS. where he is named “the precious lord” and is represented with a sceptre in his hand surmounted by a heart. This latter detail is of special interest, since it indicates that the Mexicans employed the heart with the same symbolical and metaphorical meaning as the Maya-Quiches and Tzentals. The latter had named their culture-hero “Votan”=“the Heart” (of the people). (Brinton Hero-myths, p. 217.) In the Popol-Vuh, the sacred book of the Quiches, the supreme divinity is named “the Heart of the heaven, whose name is Hurakan.” He is also named the “Heart of the Earth,” a title whose equivalent in Mexico=Tepe-Yollotl, was applied to Tezcatlipoca and associated with the bodiless voice, the echo, which was supposed to proceed from the “heart (or life) of the Mountain.” The above data undoubtedly prove the important point that Huitzilopochtli and Tezcatlipoca were respectively entitled “the Heart of the Heaven” and “the Heart of the Earth.”

7.

Short triangular capes are worn to this day by the Mexican women, and are called quechquemitl = shoulder capes. It is curious to find in Molina's dictionary, the following: tzimpitzauac = something figured, which is wide above and pointed below, and tzimmanqui = something figured which is pointed above and wide below, words which seem to indicate that they refer to triangles and that these had different meanings according to position.

8. The production of this drink was limited to the area in which the agave plant could be cultivated. As set forth in my commentary on the "Lyfe of the Indians," the natives employed many other kinds of fermented liquors, made from different fruits and plants.

9. The sacred symbols and numbers of Aboriginal America in Ancient and Modern times. (Bulletin of the American Geographical Society, no. 2, 1894.)

10. Tribes of California, Stephen Powers. Contributions to North American Ethnology. Washington, 1877. vol. III, p. 79.

11. Fourth Annual Report Bureau of Ethnology, p. 518. Washington.

12. Republicas de Indias, Fray Jeronimo Roman de Zamorra 1569-1575, ed. Suarez. Madrid, 1898.

13. Pilz-foermige Goetzenbilder aus Guatemala und San Salvador, Carl Sapper, Globus. band LXXIII, nr. 20.

14. For other examples see Borgian Codex, pp. 2, 5, 64, 66, 74.

15. Note on the Ancient Mexican Calendar System. Stockholm, 1894.

16. Biologia Centrali-Americana. Archæology, edited by F. Ducane Godman, London.

17. The most striking example of this is in the Palace House, at Palenqne, all wall-holes of which are tau-shaped. An elaborate stucco ornamentation, richly colored, encloses two upright taus surrounded by raised borders. One is a deep opening in the wall; the other, next to it, is filled in and exhibits a horizontal line resting on a vertical one. There can be no doubt that a profound symbolical meaning was expressed by the entire motif, which has been admirably reproduced by Mr. A. P. Maudslay (Biologia Centrali-Americana, Archæology, part VI, pl. 18).

18. Veröffentlichungen aus dem Königlichen Museum für Völkerkunde, IV band, I heft. 1895. p. 5.

19. Garcilaso de la Vega, Comentarias Reales, Lisbon, 1609; also translation by Sir Clements B. Markham, issued by the Hakluyt Society. Rites and Laws of the Incas (accounts by Molina, Salcamayhua, Avila and Ondegardo), translated by Sir Clements B. Markham; also Cieza de Leon, Herrera, etc. and MS. of Padre Anello Oliva.

20. Attention is called to a curious error in the original text by Arriaga, quoted by Rivero and

Tschudi. Arriaga states that the two statues stood back to back, but he makes the woman look toward the “poniente” and the man to the “occidente,” thus making both figures face the west. As “poniente” is the current Spanish phrase for the west, it is evident that the author made a slip in the use of the classical term, and intended to say that the man faced the “oriente.”

21. The Terra-cotta Heads of Teotihuacan, American Journal of Archaeology, Baltimore, 1886.

22. For this valuable list I am indebted to the kindness of Sir Clements B. Markham, the President of the Royal Geographical Society of Great Britain, who generously allowed me to study some of his MS. notes on Ancient Peru.

23. “From what can be gathered and conjectured in considering the traditions of the present time, it is not more than 350 to 400 years since the Incas only possessed and ruled over the valley of Cuzco as far as Urcas, a distance of six leagues and to the valley of Yucay, which is not more than 5 leagues.... The historical period cannot be placed further back than 400 years at the earliest” (Polo de Ondegardo 1550-1600).

24. Lettre sur les Antiquités de Tiahuanaco, 1866, pp. 9, 17, 19.

25. Blas Valera, apud Garcilaso de la Vega, Comentarios Reales, Lisboa, 1609, lib. I, cap. XI, pp. 13, 14; lib. II, cap. VI, p. 42. See also Garcia, Origen de los Indios. Madrid, 1729, lib. IV, cap. XV, p. 313.

26.

Narratives of the Rites and laws of the Incas, translated by Clements B. Markham, C. B., F. R. S., ed. Hakluyt Society, pp. 10-13.

27.

It is the merit of the late distinguished philologist Dr. Buschmann, in his invaluable work on Aztec names of localities to have pointed out that although the Cakchiquel language is now spoken at Cozumalhuapa or Cotzumalguapan, its name is unquestionably Nahuatl (Cozamalo-apan). Ueber Aztekische Ortsnamen, VII, p. 34.

The largest number of illustrations of the beautiful bas-reliefs found in the above locality have been published by M. Herman Strebel of Hamburg, whose valuable publications and splendid collections of ancient Mexican antiquities, preserved at Berlin and Hamburg, are well known. Die Steinsculptures von Santa Lucia Cozumalhuapa (Guatemala) in Museum fur Volkerkunde. Hamburg, 1894. Jahrbuch der Hamburgischen Wissenschaftlichen Austallen, XI.

Three of these remarkable bas-reliefs are figured in the valuable publication by Geheimrath A. Bastian: Steinsculpturen aus Guatemala, Berichte der Königlichen Museen zu Berlin, 1882. Dr. Habel's drawings were published in 1878, in the 22d vol. of the Smithsonian Contributions to Knowledge.

Casts of these bas-reliefs are on exhibition in the Peabody Museum.

28.

“The skins of lions, with the heads, had been prepared, with gold ear-pieces in the ears and golden teeth in place of the real teeth which had been pulled out. In the paws were certain rings

of gold. Those who were dressed or invested with these skins put on the head and neck of the lion so as to cover their own and the skin of the body of the lion hung from the shoulders." *op. cit.* p. 45.

The wearing of puma and ocelot skins by one of the two highest grades of warriors in Mexico is too well known to need further mention here.

29.

In connection with the three points proceeding from the eye, the Mexican symbol for star, I would draw attention to the fact that in the latitude of Santa Lucia only three equidistant positions of Ursa Major, and, possibly, of Ursa Minor, would be observable, the constellations being below the northern horizon when lying between it and Polaris. The symbolical three points could have thus originated in the same way as the triskeles in other countries, from observation of the identical phenomenon.

30.

This bas-relief is reproduced in vol. III of the Anales del Museo Nacional, p. 302, and is discussed by Señor Sanchez.

31.

Article Peru, Encyclopaedia Britannica.

32.

Garcilaso de la Vega, The Royal Commentaries of the Incas, Hakluyt ed. vol. I, p. 270.

33.

Rites and Laws of the Incas, ed. Hakluyt, p. 86.

34.

Rites and Laws of the Incas, ed. Hakluyt, pp. 77, 84.

35.

The Heavens ... London. Richard Bentley and

Son. 1883. pp. 287-289.

36. Historia Chichimeca, chap. XIX.

37. In Quechua the left hand was named lloque maqui and the right, pana maqui. In the Chinchaysuyo dialect of Quechua the left hand was hichoc maqui and the right, allaucay maqui (Vocabulario Padre Juan de Figueredo).

38. Annals of the Cakchiquels. Library of Aboriginal Literature, vol. VI, D. G. Brinton, p. 71. It is a striking coincidence which further excavations may however destroy, that seven similar upright slabs were found at Santa Lucia, six complete ones of which exhibit individuals whose left hands bear special marks. What is more, these figures are accompanied by animals which agree with a native chronicle quoted by Dr. Otto Stoll (*op. cit.* p. 6). According to this some of the totems or marks of dignity worn by certain Quiché chieftains were representations of pumas, ocelots and vultures. It is, perhaps, permissible to advance the hypothesis that the personages on the slabs are representatives of the seven tribes and display their totemic devices.

I would add a couple of observations which seem to indicate that the language of the people who sculptured and set up the Santa Lucia slabs was Nahuatl. In the first case on the long slab, figured by M. Herman Strebel as No. 11, a chieftain in a recumbent position is conferring with a personage masked as a deer. The date is sculptured on this slab, recalling the Mexican method of figuring numerals and indicates that a historical event is being recorded.

The Nahuatl word for deer is mazatl and we

know that the Mazahuas, or “deer-people” is the name of a native tribe which inhabits to this day the coast region of Guatemala. A town named Mazatenango = the capital or mother-city of the Mazahuas lies between the lake of Atitlan and the coast (tenan = mother of somebody; tenamitl = walled city). A small village named Mazahuat also lies farther south and inland on the Lempa river, in San Salvador. On one of the upright slabs two sculptured heads resembling dogs' heads are enclosed in circles. The Nahuatl name for dog is itzcuintl; and a town of the same name, corrupted to Escuintla, lies between the latitude of Amatitlan and the coast of Guatemala, at about the same distance inland as the town of Maza-tenango. As both places were within easy reach from Santa Lucia, it seems possible that the slabs may refer to some conquest or agreement made with the “deer and dog people.” At all events the agreement is worth noting as a hint for future research.

39.

Ed. Brinton. Library of Aboriginal literature, p. 13.

40.

It is to the superior authority of my distinguished and highly esteemed colleagues Drs. Otto Stoll and Carl Sapper that I submit the above considerations. It may be possible for the latter enthusiastic explorer and for Dr. Gustavo Eisen, who is continuing his valuable researches in Guatemala, to determine the locality of the ancient Tullan, which should, I imagine, be sought for in a region where the land inhabited by the Four Nations would converge and at a point almost equidistant from the Four Tecpans.

41.

In the Mexican collection at the Trocadero

Museum in Paris, there is a curious wooden sceptre in the form of a hand, which has been figured by Dr. Ernest Hamy in his splendidly illustrated work on this Museum.

42. See Brinton. The Native Calendar of Central America and Mexico, p. 49.

43. Bulletin of the Museum of Science and Art, University of Pennsylvania, no. 3, vol. I.

44. Idea de una nueva historia general, Madrid, 1746, p. 117.

45. Native Calendar, p. 50.

46. Vergleichende Studien. Internationales Archiv für Ethnographie, bd. III, 1890, and the Native Calendar, p. 19.

47. See Molina's dictionary for further meanings of verb yuli, which accounts for another form of primitive native symbolism.

48. See D. G. Brinton (American Hero-myths, p. 155) who, like other authorities, has not recognized the difference between native cross-symbols, denoting the four quarters celestial and terrestrial and the tree of tribal life.

49. Dr. Hale states that these squares remind us of the similar Chinese character which represents the word “field” (p. 241).

50. A Central American ceremony which suggests the snake dance of the Tusayan villagers. Reprint

from The American Anthropologist, vol. VI, no. 3, July, 1893. *cf.* Bandelier, Final Report of Investigations among the Indians of the Southwestern United States. Archaeol. Inst. Papers, Am. series, IV, pp. 586-591.

51.

Thirteenth Report of the Bureau of Ethnology. Washington, 1896.

52.

In abbreviated form I note here, inviting special comparison with Mexico, that the Zuñi Upper world was symbolized by the sun, eagle and turquoise; the Lower world by the rattlesnake, water and toad.

53.

Landa states that Mayapan signified “the banner of Maya,” the latter being the name of the “tongue of land” on which the capital was situated. This explanation is, however, scarcely satisfactory, for pantli is Nahuatl. If the entire word be regarded as Nahuatl, we obtain “the banner of the hand.” As another Maya name for the capital was Ho and this means five it seems possible that this numeral and sound were actually expressed by an open hand and that the Nahuatl name thus arose.

54.

As throughout America four brothers are always found associated, in consequence of the general spread of the quadruple organization, the fact that three rulers only are mentioned here and that three powerful tribes were found in possession of Yucatan, indicates that these must have separated themselves from their original State. The subsequent reduction of their number to two shows further dissension.

55.

It seems reasonable to refer to this date the

expulsion of the Maya tribe, the Huaxtekans, who founded their colony at Panuco, named their capital Tuch-pan and carried with them their execrable practices and ideas. At the same time they possessed and handed down such a proficiency in the art of weaving that at the time of Montezuma the most beautiful textile fabrics, furnished to him as tribute, were the Huaxtecan "centzon-tilmatli" or mantles of four hundred colors, "finely woven and covered with intricate and artistic designs." This circumstance points to a possible connection with Zilan, the reputed Maya centre of female industry. It has been stated by good authorities that the only antiquities thus far found in America, which testify to the existence of a degraded and obscene cult, are from the region of Panuco.

56.

It is interesting to note in the above description absolutely no mention of woman in the organization of Mayapan. It is therefore to be presumed that they were excluded from this capital, and inhabited, as in Mexico, their own town, under female rulership and that of the "lords of the Night."

57.

See the Atlatl or Spear-thrower of the Ancient Mexicans. Peabody Museum Papers, vol. 1, no. 3. Cambridge, 1891.

58.

Relacion. ed. Brasseur de Bourbourg, p. 52. In a note the Abbé states that the above description recalls the monoliths of Copan and Quirigua.

59.

We are told that the Cheles inhabited a province named Ah-bin-chel, and that their capitals were Tikoh and Izamal (literally, Ah = they who are of, kin = sun, chel = sort of bird and the ancient

name of a sacerdotal lineage in Yucatan). Thence the title Chelekat = holiness, highness, grandeur, given to the head of this lineage (Brasseur de Bourbourg). Ix-chel = the woman-bird, was the high-priestess or medicine-woman and midwife. The Cheles, Tutul-xius and Cocomes were the three most powerful tribes at the time of the Conquest. It is noteworthy that they all had bird names and that the word chel, the totemic bird of the Cheles, so closely resembles ché = tree, that the combination of a ché or tree as a symbol of the tribe and the chel-bird would have been suggested by the language.

60. According to Señor Garcia Cubas, "this peninsula of Yucatan must have been united at one time, to the island of Cuba, the determining cause of their separation being the impetuous current of the Gulf of Mexico" (Atlas Metodico, Mexico, 1874, p. 32).

61. For a general account of the ruins of Copan and for a plan on which the position of the different structures, stelæ, altars and prominent sculptures are given, I refer to the Memoirs of the Peabody Museum vol. I, no. 1, containing a preliminary report, of the Explorations by the Museum. Cambridge, 1896.

62. Historia de la Provincia de Yucathan, by Friar Diego Lopez Cogolludo, Madrid, 1688.

63. It seems to me that this statement establishes once and for all the order in which these sculptured glyphs are to be read. It is evident that in fastening them to the walls the idea was that of building up the calculiform record by placing the stones above each other, in the same

manner that a stone wall would be raised. Accordingly, the earliest records would form the base and the last be at the top.

64.

See Biologia Centrali Americana, pt. I, Copan “a” pl. 9. Casts of this sculpture and of two others nearly identical, from Copan, are in the Peabody Museum.

65.

It is my intention to reproduce these plans of Copan and Quirigua and of other ancient American capitals in the publication I have undertaken to make in co-editorship with Mr. E. W. Dahlgren of Stockholm, of the beautiful map of the City of Mexico and its surroundings, painted by Alonzo de la Cruz, the cosmographer of Philip II of Spain. Mr. Dahlgren published an interesting account of this map, which is preserved in the library of the university at Upsala, in 1889, with its uncolored reproduction on a reduced scale. In his monumental work on ancient cartography, Baron Nordenskjöld also published an uncolored production of this map and, with Dr. Bovallius, exhibited a beautiful facsimile of this precious document, at the Historical Exposition in Madrid, in October, 1892. During the previous summer at Stockholm, I had personally superintended the painting of a perfect facsimile copy of the map which I exhibited in the Anthropological Building of the World's Columbian Exposition in 1893. The original map was exhibited in Stockholm during the meeting of the Congress of Americanists at Stockholm in 1894, and I suggested that it ought to be published in exact facsimile and in colors, particularly on account of the many hieroglyphic names of localities it exhibits. It was thereupon agreed by Mr. Dahlgren and myself that we should jointly publish the map with an

accompanying text in English, my share of the work being principally the decipherment of the hieroglyphs of localities, the classification of the tribes inhabiting them, as well as the presentation of all historical facts connected with them that I could obtain from the native and early Spanish chronicles. With characteristic liberality the Duc de Loubat most kindly supported the proposed publication by subscribing to twenty copies of it in advance and depositing the payment for these at the Academy of Sciences. The reproduction of the map has been facilitated by this generous action and I take great pleasure in expressing here our grateful appreciation to the Duc de Loubat, who has been patiently awaiting the achievement of our undertaking. Both Mr. Dahlgren and I have been prevented from completing this up to the present, by work planned previously to the publication of the map. The present publication will prove, however, that the social organization of the Mexicans has been the object of my painstaking study and that, until I had satisfactorily set forth the fundamental principles which influenced not only the distribution of the population, but the ground-plan of the capital itself, any text I could publish with the map would be incomplete. As matters now stand, I propose to treat of the City of Mexico as a type of an ancient American sacred city, to compare its ground plan with those of other native capitals and to trace, as far as possible, the localization of the various tribes and classes of the ancient population, so that we can form an adequate idea of the topography and machinery of the great state known as the Empire of Montezuma. I hope and expect to complete this publication in a reasonable period of time but dare not define its limits, as all scientific research demands more time and strength than

can be determined upon in advance. In conclusion I would state that, at the Congress of Americanists which took place at the city of Mexico in 1895, the distinguished Mexican cartographer, Señor Garcia Cubas, whose splendid maps of Mexico are well known, made an interesting communication on this map, of which he had seen a copy.

66.

It has been surmised that the name Palenque is of Spanish origin and means “a palisade;” but it seems far more likely to be the approximate rendering of the sound of the old native word by a Spanish word, in the same way that the Nahuatl Quauh-nahuac became the Spanish Cuerna-vaca, literally cow's horn.

67.

Brasseur de Bourbourg's Maya Vocabulary contains an interesting instance of a native tribe or lineage bearing the name of a bird: “Chel: name of a kind of bird; ancient name of a great sacerdotal family reigning at Tecoh (near Izamal, Yucatan). Thence the title ‘Chelekat,’ which meant holy, exalted, great, and was applied to the head of this family.”

68.

On a large tablet at Ixkun, the cast of which is now in Mr. Maudslay's collection at the South Kensington Museum, similarly placed figures support on their bent backs and shoulders standing personages, facing each other, and surrounded by glyphs. In this case, however, the men who serve as footstools, are bound and distinctly show a difference of type and costume, so that there can be no doubt that the tablet commemorated the conquest of an alien tribe.

69.

Estudio arqueologico y jeroglifico del Calendario

o gran libro astronomico.... Mexico. 1889.

70.

Shakespeare, Julius Caesar, III, 1, 60.

71.

A somewhat disheartening consideration concerning the Stone of the Great Plan deserves mention. The probability is that it was originally painted with the colors of the four quarters and that some of the records thus made are irretrievably lost. On taking the first impressions with gelatine, in order to make his admirable cast of the monolith, Señor Abadiano discovered many traces of color, lodged in small crevices and corners of the carvings. Moreover, the use of the symbolical colors on stone monuments is vouched for by the great painted monolith which was, strange to say, re-interred after having been discovered in the City of Mexico some years ago. The reproduction of an obviously incorrect drawing made of this stone during its uncovered state, has been published in vol. II of the Annals of the National Museum of Mexico.

72.

Relacion, p. 339, Kingsborough, vol. IX.

73.

Leon y Gama advanced the opinion that the stone, supplemented by a gnomon, served as a solar clock or dial, to mark the hours of the days and the seasons, etc. He added that the stone may have served further purposes than those he enumerated and hints that it may have also recorded lunar periods. This distinguished scholar concludes by acknowledging that the ancient Mexicans possessed enlightened knowledge of the movements of the principal planets and methods of observing them, in order to divide time for the purposes of civil and religious government (Description de las dos

Piedras. Mexico, 1852, p. 110).

The late Doctor Philip Valentini, in a learned discourse on the Calendar-stone, read at New York in 1878, expressed his view that it contained a complete and plastic representation of the division of time employed in ancient Mexico.

The distinguished Mexican scholar, Señor Alfredo Chavero, has published the most elaborate treatise which has been written on the subject and discusses the views of Gama and Valentini with much erudition. Referring the reader to his publications in the Annals of the National Museum of Mexico I shall but mention his views that the four symbols, contained in the quadruplicate central figure, record four epochs of the native cosmogony, that the central head is an image of the sun and that the monument itself is a votive tablet which was erected to the Sun in historical time, two conclusions to which I cannot subscribe. It is impossible to discuss fully the valuable publications of Señores Troncoso and Chavero in these cursive remarks, but I shall do so on another occasion. Meanwhile there is one point upon which both of these authorities agree, namely, in admitting the possible connection between the civilization of Mexico and Peru and in recognizing that various ancient people of America had the nahui-ollin in common. A passage in Señor Chavero's work claims moreover special mention, as it contains his supposition that the sign nahui-ollin may have symbolized not only the four movements of the sun, but also those of the moon, which the writer seems to regard as the nocturnal or dark sun. I am quite ready to agree with the above authorities on some of the points mentioned, conflicting as their views appear to be at first

sight. Inasmuch as I regard the monument as the image of a plan or theoretical scheme which colored and influenced all native thought, I hail any recognition made by other students of its all-pervading presence in the Calendar and in the cosmogony of the ancient Mexicans. On the other hand I maintain a view which materially differs from those of previous writers, namely, that the entire plan was originally based on the primitive observation of Polaris and in the conception of a stable centre: the seat of a power extending over the Four Quarters and the Above and Below.

74.

In the text, as published, Bernal Diaz states that this statue had a face like that of a bear "un rostro, como de osso," but goes on to say that it was decorated according to the same mode as the other "del otro." I am inclined to think it more than probable that instead of "de osso " the text should also read "del otro," as among the many images of Tezcatlipoca that are extant, none show him connected with the bear in any form or shape.

75.

In Tullan we seem to find the Maya equivalent to the Mexican Itzacual = enclosure, by which the Teotihuacan pyramids are popularly designated, as may be verified by the discussion of the Maya word in the preceding pages (*cf.* tulum, tulul, tuliz, tulacal), which conveys the idea of something enclosed, entire, whole and universal and will be reverted to. Cholol-lan seems to be connected with the verb cholol-tia = to escape (like game from a snare or net) to fly, or to spring away. According to this, Cholol-lan would mean "the place of escape or flight" and it will be seen that this designation will be found to agree with the native tradition concerning the

purpose of the pyramid, which will be cited presently. It is not impossible, however, that Cholol-lan may be bilingual and also be a corrupt rendering of the Maya *ho* or *hool* = head, also capital. This supposition receives a certain support from Padre Rios' statement that "the inhabitants of Cholula, in their sacred festivals, performed a solemn dance around the pyramid chanting a song which began with the words Tulanian Hulaez." These, he states, "belonged to none of the languages now spoken in Mexico" (Orozco y Berra *op. cit.* p. 363). The name Tlachiuhaltepetl is translated by Orozcoy Berra by "mountain made by hand," *i. e.* artificial mountain or pyramid; from tlachiuhaliztli, the act of accomplishing some work forming or creating something. As the origin of primitive symbolism is a question of such deep interest I shall mention here some curious data in connection with the pyramid. The word Tlachiuhale was a title or name applied to the "Creator or Former of living creatures." In order to express the sound of this word in the picture-writings, it is obvious that a pyramid could have been employed, since it graphically and phonetically conveyed the desired sound tlachiual-tepetl. At the same time a complementary sign would be necessary so as to obtain a symbol which would specially apply to the Creator alone. The word tlachia = to look, see, watch, naturally suggests itself, as a complement to the sound tlach; and to express, in a cursive way, the action of seeing, an eye sufficed. We thus see that an artificial mountain or pyramid and an eye formed a hieroglyph which expressed the sound "Tlachiuale" and signified the "Creator." As the eye by itself was the sign for star, and the idea of a central star, as frequently depicted in the nahui-ollin sign, was an emblem of the creative and central power, it

is evident that, besides its literal meaning, *i. e.* an artificial or created mountain, a "tlachiuhaltepetl" would have been regarded by the initiated as the Mountain of the Creator, the sacred pyramid, which was the image of central, dual and quadruple power.

76. The testimony of early Spanish missionaries established the fact that in ancient Mexico a caste of master builders and masons existed, whose name, Tulteca, identified them with the ancient centre of civilization and integral state of Tullan. "Whenever the natives were asked who had constructed certain edifices, passes and roads, etc., they invariably answered the 'tultecas,' a Nahuatl word in current use, which signified 'the skilled artificers or workers in stone, etc., the master-masons or builders.' "

77. The ancient native name of this volcano was Citlal-tepetl, literally the Star Mountain, from which it may, perhaps, be inferred that, from the plains, its high and sharp peak served as a means of registering the movements of certain stars and planets.

78. China, Prof. Rob. Douglas, p. 259.

79. The Chinese designation ho, applied to the limits of space, is particularly interesting in connection with the Maya ho and its homonyms.

80. "The Mongol-Mayan Constitution," The American Antiquarian, May and June, 1898. It is with all the more genuine appreciation that I point out how Mr. Wickersham, anticipating my publication of the same conclusion, has recognized that the Zuñis, Mexicans and

Peruvians as well as the Chinese, were ruled by what he aptly terms the "Quadriform Constitution," since it has taken me years of hard study to perceive this common basis. I likewise draw attention to his study in primitive law, "The Constitution of China (Olympia, 1898)," but must remark that I strongly differ from his conclusions in the recently published Answer to Major Powell's inquiry "Whence came the American Indians?" (Tacoma, 1899.)

81.

Shu King. The Chinese Classics, Legge. Book I, p. 37.

82.

Sacred Books of the East, Legge, vol. III, Shû King; also W. H. Medhurst, Shanghai, 1846.

83.

An interesting note in connection with the assignment of color to the cardinal points in Asia, is given by Schlagintweit (Buddhism in Thibet, 27, 3), who relates that "the walls of the temples look towards the 4 quarters of heaven and each side should be painted with its particular colour, viz.: north = green, east = white, south = yellow, west = red, but this rule is not strictly adhered to; most, indeed, are painted red." As a parallel to this I refer to Sahagun's description of the temple of the high-priest Quetzalcoatl at Tula, which held four chambers facing the cardinal points; "The east chamber was termed the golden house and was lined with plates of gold; the west chamber was termed the house of emeralds and turquoises; the south chamber was inlaid with silver and mother of pearl and the north chamber with red jasper and shells." Sahagun describes also a second building of the same kind, in which the decoration of the four rooms was carried out in the same colors, in feather-mosaic (*op. cit.* Book

x, chap. xxix).

84. The alligator-altar of Copan and the "Great Turtle" of Quirigua, on which four limbs may be discerned, are the most remarkable examples of the native employment of the quadruped figure as a symbol of clan-organization and the great Quadruplicate Plan. An interesting instance of the association, in China, of the form of a four-footed animal with numerical divisions is furnished by the following passage from the Book of Yu, Shoo-King, ed. Legge. Khung-she has said that "Heaven conferred on Yü the divine tortoise bearing a book out of the river; on its back were various numbers, up to nine. Yü arranged them and completed the 9 species. On the head of the tortoise was 9, on the tail 1, on the left side 3, on the right 7. The shoulders were formed by 2 and 4, the thighs by 6 and 8."

85. As Prof. E. B. Taylor has aptly pointed out: "By accident the [Mexican] Calendar may be exactly illustrated with a modern pack of cards laid out in rotation of the four suits, as an ace of hearts, 2 of spades, 3 of diamonds, 4 of clubs, 5 of hearts, etc.... This system [of combining signs with numerals] is similar to that of central southwestern Asia where, among the Mongols, Tibetans and Chinese, etc., series of signs are thus combined to reckon years, months and days.... Humboldt makes this comparison in his Vue des Cordillères, p. 212".... (Article "Mexico," Ency. Brit.).

86. The following passages contain interesting evidences of the ancient application of the number seven to tribal organization in China. "In the time of the Suy dynasty Manchuria went by the name of Mo-ho in China ... the people being

then divided into seven tribes.... Towards the end of the eleventh century one Yang-ko was elected as their chief ... and he organized something of a regular government throughout the various tribes of Jou-tchi or Niô-tchi's and collected taxes from them. The highest of his officers were all styled po-k-eih-lee and *were distinguished by the names of the sun, planets and 28 constellations of the Zodiac*. Every five, every ten and every hundred men had their special officers.... From the chief of five to the chief of ten thousand, each trained his dependents in military art....” Wylie: On the origin of the Manchus (Chinese Researches, p. 244).

87.

The Nestorian Tablet in Si-ngan-foo (p. 24, Chinese Researches. Shanghai, 1897).

88.

(The Religion of Japan, Wm. Elliott Griffis. London, 1895, p. 67 and note 9.) This curious agreement between the Japanese and other ethnic traditions, in locating Paradise, the origin of the human family and of civilization at the north pole, has not escaped the attention of Dr. W. F. Warren, President of Boston University, who makes extended reference to it in his suggestive book, “Paradise Found, The Cradle of the Human Race at the North Pole. A Study of the Prehistoric World. Boston, 1885.”

89.

An interesting parallelism in the development or evolution of the idea of rotation around a central pole was brought to my notice by a model in the Indian Department of the South Kensington Museum. It represents the Hindu fanatical religious rite known as the “Churruck Puja.” Four individuals are suspended by cords, with hooks drawn through their flesh, to a movable wooden structure like a wheel surmounting a

high pole, similar to that used by the Ancient Mexican "flyers" (see p. 24) which likewise served as a pivot for the circling motion of the performers. The torture voluntarily endured by the latter recalls that accompanying the sacred sun pole-dance of certain North American Indian tribes. It is interesting to contrast the ancient Mexican refined and intellectual symbolization of circumpolar motion with the fanatical and hideous self-torture associated with the North American and Hindu modes of representing the same phenomena, as it throws much light on the development of certain sides of human nature.

90.

Mr. Wm. H. Goodyear, from whose admirable work, the Grammar of the Lotus, the above quotations are taken, remarks that "the myth of Horus rising from the lotus, as found in the Egyptian texts, is the exact counterpart of this idea and as far as Brahmanism is concerned, is much the older;" also that "it is possible that the lotus symbolism of Egypt and India dates from a race which divided into separate branches; it is also possible that the people of India experienced the influence, direct or indirect, of Egypt."

91.

Researches into the origin of the primitive constellations of the Greeks, Phœnicians and Babylonians (Robert Brown, jun., F. S. A., M. R. A. S., vol. I, 1899, p. 357).

92.

In Assyria we find one of the oldest temples bearing the name E-kharsag-kurkura, that stamps the edifice as the reproduction of the "mountain of all lands" and there are other temples that likewise bear names in which the idea of a mountain is introduced.... The zikkurat or "mountain-house" = E-kur was at Nippur, Sippar,

Uruk, Ur and Larsa, “the centre of a considerable group of buildings; while at Babylon ... the temple area of E-sagila must have presented the appearance of a little city of itself, shut off from the rest of the town by a wall which invariably enclosed the sacred quarter.” The name E-kur was used at Nippur, by extension, to denote the entire sacred precinct which contained the zikkurat or staged tower, the great court where worshippers assembled, shrines and other minor structures. The excavations at Nippur have afforded us, for the first time, a general view of a sacred quarter in an ancient Babylonian city. The extent of the quarter was considerable. Dr. Peters' estimate is eight acres for the zikkurat and surrounding structures.... “A factor that contributed largely to the growth of the sacred precinct in the large centres was the circumstance that the political importance of such centres as Nippur, Lagash, Ur, Babylon and Nineveh led the rulers to group around the worship of the chief deity, the cult of the minor ones who constituted the family or court of the chief god.” A “list of temples in Lagash, recently published by Scheil, ... furnishes the name of no less than thirteen sacred edifices, and we are certain that as many as four or five smaller chapels surrounded the precinct in which stood the great temple E-ninnu ...” (Jastrow, *op. cit.*).

93.

These facts shed additional light and interest upon the Mt. Meru of India, where the Brahmans sought union with their god Brahma.

94.

“Diodorus Siculus maintains that the E-kur was employed as an astronomical observatory. The antiquity of Babylonian astronomy is indicated by the testimony of Simplicius and Porphyrius who relate that Callisthenes, the companion of

Alexander the Great during his campaigns, brought back from Babylon and communicated to Aristoteles a series of observations which had been made there for a period of 1,903 years. Accordingly, the Chaldæans must have begun to make astronomical notes more than 2,200 years before the Christian era. It stands indeed to reason that they must have made observations during countless centuries, since they discovered the Saros, known as the Chaldæan period of 6583-1/3 days, which served for the prediction of eclipses and were also acquainted with the precession of the equinoxes."

95.

Professor Jastrow tells us that the name Shamash merely signifies vassal or servitor. I venture to point out what is doubtlessly a fact familiar to Assyriologists, that the name closely resembles the Babylonian-Assyrian name Shame = heaven, the equivalent of the Sumerian an, a word of which the most ancient cuneiform signs were four crossed lines, forming eight lines proceeding from a common centre.

96.

A striking corroboration of the view that China derived its civilization from Asia Minor is afforded by the resemblance between the Assyrian Anu and the Chinese Shang, both signifying Heaven, and the Assyrian Ea and Chinese Lea, both applied to "the Below."

97.

An analytical study of the Babylonian and Assyrian divinities enumerated in Professor Jastrow's hand-book enables us to detect some of the natural associations of ideas that influenced the formation of one artificial theological system after another, all springing from a single root.

The fundamental realization of the antithesis of

light and darkness giving rise to the division of the universe into two distinct parts, the conception of an eternal antagonism between both followed and led to the stage of thought set forth by Mr. Robert Brown who tells us (*op. cit.*) that "the original twins were the Sun and Moon" and that an archaic cosmogonic legend attached to the third month of Kas (twins) is that of two hostile brethren and the building of the first city. The great twin-brethren who join together to build the city are the Sun and Moon, engaged in preserving cosmic order yet also constantly antagonistic to each other and who constantly chase each other, one being up when the other is down. Mr. Brown also relates the myth of antagonistic satraps Namaros and Parsondas and states that, in the twin stars, Castor and Pollux, named by the Euphrateans the great Twins = Mastab-bagal-gal, the Sun and Moon were re-duplicated. The Euphratean abbreviation is mas = twin or mas-mas, and Pollux is equated with the fourth antediluvian king Ammenon, a name derived from Akkadian: umun = offspring, an = heaven *i. e.* the Sun, "the son or offspring of heaven."

98.

"There are reasons for believing, however, that Sarpanitum, the offspring-producing goddess once enjoyed considerable importance of her own; that, prior to the rise of Marduk to his supreme position, a goddess was worshipped in Babylon, one of whose special functions it was to protect the progeny while still in the mother's womb. A late king of Babylon, the great Nebuchadnezzar, appeals to this attribute of the goddess. To her was also attributed the possession of knowledge concealed from men.... A late ruler of Babylon, Shamash-Shumu-kin, calls her 'the queen of the gods' and declares

himself to have been nominated by her to lord it over men" (Jastrow, *op. cit.* p. 122).

The following extracts from Assyrian prayers addressed to Ishtar further define her position at one time: "The producer, queen of heaven, the glorious lady. To the one who dwells in E-babbara.... To the queen of the gods to whom has been entrusted the commands of the great gods. To the lady of Nineveh.... To the daughter of Sin, *the twin-sister of Shamash*, ruling over all kingdoms. Who issues decrees, the goddess of the universe.... *Besides thee there is no guiding deity*...."

99.

As an illustration of the ideas connected with Astarte it is interesting to note that fish and doves, inhabitants of the sea and air, became her sacred emblems. The horns which she is sometimes represented as wearing seem to be not only symbolical of the moon, but also to be a remnant of a more ancient form of symbolism which associated the goddess with the cow. It is stated that, in Canaan, Astarte was represented under the form of a cow and it will be shown that, in the Egyptian zodiac Polaris and Ursa Major were represented under the form of a bull or cow or its thigh. The eye painted on the prow of the ship was also a symbol of the goddess, an interesting fact considering that the eye expresses a star among other primitive people.

100.

Book V, Chaps. VIII-X.

101.

"That the Hebrew and Babylonian traditions [of the Creation] spring from a common source is so evident as to require no further proof. The agreements are too close to be accidental. At the

same time the variations in detail point to an independent elaboration of the traditions on the part of the Hebrews and Babylonians.... It is in Babylonia that the thought would naturally arise of making the world begin with the close of the storms and rains in the spring. The Terahites must, therefore, have brought those cosmological traditions with them upon migrating from the Euphrates Valley to the Jordan district.... The intercourse, political and commercial, between Palestine and Mesopotamia was uninterrupted.... The so-called Babylonian exile brought Hebrews and Babylonians once more side by side.... A direct borrowing [of traditions] from the Babylonians has not taken place and while the Babylonian records are in all probability much older than the Hebrew, the latter again contain elements, as Gunkel has shown, of a more primitive character than the Babylonian production. This relationship can only satisfactorily be explained on the assumption that the Hebrews possessed the traditions upon which Genesis narrative rests, long before the Babylonian exile, when the story appears, indeed, to have received its final and present shape.... Yahwe is assigned the rôle of Bel-Marduk, the division of the work of creation into six days is definitely made and some further modifications introduced ..." (Jastrow, *op. cit.* pp. 452-453).

102.

Dr. von Luschan (*op. cit.* p. 22) translates this cuneiform sign, which exists in Babylonian and Assyrian forms, as "Siebeneinigkeit" and emphasizes the fact that it is employed in the singular form. The inference that it may designate not only the Pleiades but more probably Ursa Major corroborates the view that the mystic number seven impressed itself upon the human mind by its association with the

Septentriones.

103. The fact that the mountain was the symbol of the centre of the earth and of Bel, throws light upon the meaning of the clay cones which were "very common votive objects in Babylonia especially in the earlier periods." They would have been appropriately used in the cult of Baal, the personification of the male principle, and are indeed usually represented as offered by male worshippers. That the cones in some cases represented the conical bunch of the male blossom of the palm tree may also be conjectured.

104. An interesting complement to this is furnished by the texts of oracular messages sent by the goddess Ishtar to King Ashurbanapal who seems to have been a fervent disciple of the theological school of Arbela. On one occasion, when the king's army was in a predicament, Ishtar appears at night and declares: "I walk in front of Ashurbanapal, the king, who is the creation of my hands." On another occasion the oracle-giving medium reports to the king: "Ishtar, dwelling in Arbela, came with quivers hung on her right and left sides with a bow in her hand and girded with a pointed unsheathed sword. Before thee [*i. e.* the king] she stood and like the mother that bore thee [with maternal kindness] Ishtar, supreme among the gods, addressed thee commanding: 'Be encouraged [literally, look up] for the fray. Wherever thou art, I am.'" The images of Ashur aiming his arrow and Ishtar with an unsheathed pointed sword recall the biblical description of the flaming sword which turned every way, to keep the way of the tree of life (Genesis III).

105.

It is interesting to trace to the same origin the "quadriga" which may well have been associated with the "primitive sun" = Polaris, before supreme sovereignty was transferred to Phœbus, the diurnal sun, by the votaries of the cult of Light.

106.

I am pleased to be able, at the last moment, to insert the following interesting points personally communicated to me by Dr. Wallis Budge: In remotest antiquity two mythical mountains marked the two divisions of the land: Bakhan, situated to the southeast, and Manu, situated to the northwest. The latter, like the mountain Meru of India, was the abode of the blessed, towards which the souls of the dead set out from Abydos and where eternal rest was to be found. The curious connection between the north = mehta and the west = amenta, which I have shown to have prevailed in ancient Mexico where the north is named Mictlan and in Yucatan where Aman signifies north, is particularly interesting in connection with the exclamation or exhortation to the soul, constantly met with in the Egyptian Book of the Dead: Er-amentet = to the hidden land! *i. e.*, the northwest.

107.

Thesaurus Inscriptionem Ægyptiacarum II, p. 212.

108.

First Steps in Egyptian, London, 1898. I am mainly indebted to this useful book and other publications by the same author for the Egyptian words cited in the following pages. An interesting point, personally communicated to me by Dr. Wallis Budge, is that the cardinal points in Egypt were located diagonally, a method which is shown to have also existed in

Central America by the diagonal orientation of numberless pyramids and buildings.

109. A History of Egypt, Vol. II. London, 1896.

110. Reference is made to another translation of the hymn in the "Records of the Past," Vol. II, pp. 127-136, and to Grébaut, Hymne à Ammon Ra.

111. First steps in Egyptian, Mr. Wallis Budge, p. 235.

112. An extremely interesting instance of the hand being actually figured between the sun and the moon, *i. e.* as the symbol of the Middle, is to be seen on the Phœnician tablet to Baal Hamman and Tanitla, from Carthage, preserved at the British Museum and figured by Mr. Goodyear, fig. 64, 1. Above the hand is a group of symbols consisting of two S-shaped signs, resembling the Mexican picture of Ursa Major. Between these is a pyramid and above this a seven-petalled conventionalized flower, which should be compared with fig. 64, 3, a copy of the familiar flower on the sacred tree of the Assyrians. In fig. 64, 2, copied from another Phœnician tablet (Goodyear), the flower occupies the central position between two hands; the latter taking the places of sun and moon in the tablet 1, an interesting detail considering the instances cited, showing that dual rulership was indiscriminately associated with "right and left hand" or "the sun and moon."

113. It is remarkable that the sound of the Latin word for ram = aries, so closely resembles the Egyptian symbols for Amen-Ra (see fig. 63, 1-4) and that the am and ar syllables occur in the following names for ram or sheep, applied to the zodiacal

constellation:

Al Hamal = the sheep (Arabic).
Bara = the ram (Persian).
Amru = the ram (Syrian).
Varak = the ram (Parsi).

114.

The inscription on this monument, which also exhibits the portrait statue of Amenophis III, is of particular interest as it states that the temple of Saleb, built by the king, was "very wide and large ... its towers reached to the sky, and *the flagstaffs united themselves with the stars of heaven*" (see official catalogue of the Berlin Museum, p. 122). This appears to indicate that the flagstaffs were employed for purposes of astronomical observations.

115.

The ideas associated with the form of a lion couchant are best learned from the following passages from the Bible: "He couched, he lay down as a lion and as a great lion; who shall stir him up?" (Numbers XXIV, 9, see also Genesis XLIX, 9). It is only by the light afforded by such insights into eastern contemporaneous thought that the meaning of the Egyptian sphinx can be in some measure understood.

116.

I address the query to Egyptologists: whether there are any indications of a common identity of sound in the Egyptian word for beard and same name, denoting rule or power, similar to that existing in the Maya language between "ah-meex" = bearded man and "ah-mek-tan" governor, ruler (see p. 232).

117.

The somewhat perplexing allusions to the "divine marriage" of Isis to her father or brother

and to her giving birth to her own mother, as in the above text, are very naturally explained by the fact that the successive officiating king-high-priest always personified Ra-Osiris or the Sun and the queen Isis-Sothis-Hathor and the Moon or Sirius. The female child to whom the queen gives birth was destined to be her successor and another personification of Isis, therefore she could be said to have given birth to her own mother, since, like the latter, the child would be an Isis. In the same way the queen could be said to marry her father and brother, as, like herself, the king was the offspring of a divine union and bore his father's title. In connection with the custom of the male Horus naming the “young sun” and the female Horus the young star or moon, it is noteworthy that the son and daughter of Anthony and Cleopatra, who used to assume the insignia of Isis on state occasions, were given the Greek surnames of Helios and Selene.

118.

It is extremely curious and interesting that the Incas, the civilizers of Peru, also set up a disk of gold as the image of the Creator and placed it between images of the sun and moon. We also find the Inca Ccapac Yupanqui, like Amenhotep, deploring the spread of idolatry and image-worship as a misfortune to his vassals and a sorrow to himself. It is recorded of another Inca that, as a wise measure he destroyed all writing, presumably picture and rebus writing, as calculated to mislead his people by a multiplication of symbols. It is an interesting reflection which our increased knowledge of the primitive civilization of Egypt enables us to make, that the organization of Peru, under Inca rule, must have closely resembled that of Egypt in remotest antiquity, at its primitive stage of development, when simplicity, harmony and equilibrium existed throughout the “celestial

kingdom."

119.

The following detached extracts, partly from Mr. Richard Hinckley Allen's valuable work, should be carefully studied in connection with the above text, as they throw further light upon the ideas associated with the sacred centres of heaven and earth by nations with whom the Greeks were in touch.

“To the whole Arabian nation, heathen or Mahommedan, Polaris was Alfass, the hole in which the earth's axle found its bearing” (p. 451).

The following important material pertains to the chapter on India, of whose insufficiency I am painfully aware. “In earliest Northern India the star nearest the pole was known as Grahadhara, ‘the pivot of the planets,’ representing the great god Dhruva, and Al Biruni said that among the Hindus of his time it was Dhruva himself. It was an object of their worship” (p. 456).

In Bournouf's Bhagavata-pûrana (chap. IV) it is said that “Dhruva, meditating on Brahma, stood on one foot, motionless as a post; while he did so half the world, wounded by his big toe, bent over under his weight like a boat which, bearing a vigorous elephant, leans at each step he takes, from left to right.” O'Neil, citing the same source continues: “In consequence of his austerities Bhagavat said ‘I grant thee virtuous Child, a Spot which has never yet been occupied by any being, a Spot blazing with splendor, of which the ground is firm, where is fixed the circus of the celestial lights, of the planets, constellations and

stars; which turn all around like oxen round their stake, and which [the Spot] subsists motionless even after the Dwellers of a Kalpa [a day and night of Brahmâ *i. e.* 4,320,000,000 years] have disappeared. Around this Spot there turn with the stars and leaving it on their right, Dharma, Agni, Kasyapa and Sakra and the Solitaries who live in the Forest' ..." (p. 801). According to the Vishnu-purâna: "As Dhruva turns, he causes sun, moon and other planets to turn round also, and the lunar asterisms follow in his circular course, for all the celestial lights are in fact bound to the Polar star by aërial cords" (Vishnu-purâna, see O'Neil, p. 503). It is instructive to compare these descriptions of Dhruva with the Akkadian-Sumerian hymn to Ishtar, whom I have identified as the female form of Polaris (p. 342). According to Professor Sayce it begins: "Thou who as the axis of the heavens dawnest. In the dwellings of the earth her name revolves" (O'Neil, p. 715).

O'Neil further notes that "Dhruva is named the sun of Uttâna-Pâda" and that this name is connected with uttarat = north and also signifies outstretched, supine. He also states that "Uttara and Uttarâ was the dual god of the north, the son and daughter of Virâta, and expresses the opinion that the age of the Dhruva legend is unutterable" (p. 503).

According to another Sanscrit legend: "At one time in the history of the creation an attempt was made by Visvamitra to locate a southern pole and another bear in positions corresponding to the northern, this pole passing through the island Lumka or Vadavāmukha (Ceylon)" (Allen, p. 436). Professor Sayce writes: "In early Sumerian days, the heaven was believed to rest upon the peak of 'the mountain of the world' in

the far northeast, where the gods had their habitations (*cf.* Isa. XIV, 13) [the mount of congregation in the uttermost parts of the north], while an ocean or 'deep' encircled the earth which rested upon its surface." Von Herder referred to it as "Albordz, the dazzling mountain on which was held the assembly of the gods, and identified it with the holy mountain of God," alluded to in the Book of the Prophet Ezekiel XXVIII, 14; and Professor Whitney quoted from the sixty-second verse of the first chapter of the Surya Siddhanta, "the mountain which is the seat of the gods" and from the thirty-fourth verse of the twelfth chapter: "A collection of manifold jewels, a mountain of gold, is Meru, passing through the middle of the earth-globe, and protruding on either side;" commenting on which he says: the "seat of the gods" is Mount Meru, situated at the North Pole (p. 452).

120.

I likewise deeply regret that it is only since the last pages of the present investigation have been in proof, that a remarkable work, full of valuable material relating to the universal spread of pole-star worship and symbolism, was particularly recommended to me by a distinguished fellow archæologist. Had I realized before this the great value of the late John O'Neil's "The Night of the Gods" (David Nutt, London, 1897), as a compendium, the result of years of conscientious and painstaking labor, I should have made extensive use of it and should have been able to make my survey of the ancient civilizations of the Old World far more complete and my material more convincing. As it is, I can only warmly recommend the work to all interested in the present investigation, who will see for themselves the widely different points of view from which our respective researches have been

carried out but will probably be struck with the identity of some of our views. I should like to express here my keen realization of the many blunders and omissions I have probably made in the course of the present investigation, which carried me, reluctantly, into fields of research where I felt myself to be a stranger. In view of the disadvantages under which I have labored, under pressure of time and a frequent inability to obtain all the books I wished to consult, I rely upon the leniency of specialists and upon their kindly communicating to me the faults they detect, so that I may avoid them in future publications.

121.

"The Century Dictionary has a theory as to the origin of the idea of a Bear for the seven stars, doubtless from its editor, Professor Whitney, that seems plausible, at all events scholarly. It is that their Sanscrit designation, Riksha, signifies, in two different genders, 'a bear' and 'a star,' 'bright' or 'to shine;' hence a title, the Seven Shiners,—to that it would appear to have come, by some confusion of sound of the two words, among a people not familiar with the sound" (p. 424). "Later on Riksha was confounded with Rishi, and so connected with the Seven Sages or Poets of India. Al Biruni devoted a chapter of his work on India to the seven stars [of Ursa Major] known as Saptar Shayar, the seven Anchorites" (Allen). I draw attention here to the curious fact that the Sanscrit verb to see = iksh is nearly homonymous with riksha and that therefore, in Sanscrit, the association of a star with the eye = akshan, that sees = iksh, must have been a very close one and suggested the employment of the eye as a symbol for star. In connection with the Sanscrit riksha it is curious to note that, in Japanese, riki means power, viz., jin-riki-sha = man—power-wagon; and hasha or

rinsha = wagon or wain. The following extract from one of the hymns in the oldest Veda, the Brahmâna, which "mark the beginning of the philosophical creed of the Vedic period," is particularly significant when compared, not only with the preceding association of Ursa Major with the seven sages of India, but also with Plato's cosmological doctrines: "I have beheld the Lord of Men," one poet writes, "with seven sons, of which delightful and benevolent [deity] who is the object of our invocation, there is *an all-pervading middle brother* and a third brother.... They yoke the seven to the one wheeled car; *one horse named seven* bears it along; the three-axled *wheel is undecaying, never loosened and in it all these regions of the universe abide*.... Immature, undiscerning in mind, I inquire of those things *which are hidden from the gods* [*cf.* Hymn to Amen-Ra, p. 388, where the same expression is used], the seven threads which the sages *have spread to envelop the sun in whom all abide*" (Chambers' Encyclopædia, article India).

122.

Fig. 72, 1, is referred to on p. 319.

123.

The original name for Phrygia is said to have been Askanios, from Askanios its first ruler. The cenotaph of Midas is built in the rock at Jazylykaia, in the vicinity of Kumbet, where other similarly decorated royal tombs exist.

124.

It would be interesting to learn whether the Arabian title Om-al-kara, "the mother of cities," has ever been connected with Roma by investigators.

125.

It is recalled here that the twin brothers Romulus and Remus are supposed to have been the issue

of the union, in the temple of Mars, of the vestal virgin Rhea Silvia with a personification of the god Mars.

126.

The recurrence of the square plan, employed in Babylonia and Egypt (see pp. 333 and 369), is noteworthy.

127.

In course of time each Roman civitas, or political canton or community, possessed such "a centre, which was termed capitolium, *i. e.* the height, from being originally fixed on a height or hill-top, corresponding to the Greek akra. Round this stronghold of the canton, which formed the nucleus of the earliest Latin towns, houses sprang up, which were in turn surrounded by the oppidum or the urbs (ring-wall connected with urbus, curvus, orbis); hence, in later times, oppidum and urbs became, naturally enough, the recognized designations of town and city."—Chambers' Encyclopædia.

128.

Diocletian (A.D. 292) revived dual rulership and quadruplicate organization by instituting the quadruple hierarchy of two Augusti and two Cæsars. The prevalence of quadruplicate division with current cosmical conceptions is shown by the following text: "The usual form of taking an augury was very solemn; the augur ascending a tower, bearing in his hand a curved stick called a *litus*. He turned his face to the east and marked out some distant objects as the limits within which he would make his observations and *divided mentally the enclosed space into four divisions*.... He next ... prayed and offered sacrifices...." "We learn from ... the augur Cicero that while the Romans only had four divisions to their heavens-templum, the Etruscans had sixteen, obtained by bisecting and rebisecting

the four angles" (O'Neil, p. 433).

129. The cult of Ishtar = Isis, associated with mystery and of Serapis = Osiris, had been instituted in Rome by Domitian (A.D. 82) who caused temples to be built for them. Curious instances of the spread of the cults of other countries throughout the Roman empire have come under my personal notice. In the Museum at Bonn, Germany, there is a Roman tombstone the inscription on which consists of a wheel above the name Jovis, the association of Jove with the wheel, being very remarkable and significant in connection with the present subject.

At Nîmes in the South of France, a curious statue of Mithra was found in the ruins of the Roman city. It consists of a Hermes, surmounted by a hairy, dog-like face. A great serpent is wound around the Hermes, the signs of the zodiac being sculptured between the coils. In the light of the present investigation the meaning of the symbolical statue seems too obvious to require explanation. It is strange that the recollection of seeing this statue at the age of nine with my father, who pointed out and explained the signs of the zodiac to me, is one of the most vivid of my childhood.

130. The curious association of the number seven with Stonehenge in gypsy folk-lore, which possibly contains vestiges of Druidical folk-lore, is brought out by R. G. Haliburton in his paper on "Gypsy folk-lore as to Stonehenge," to which I refer the reader.

131. In the case of Mayapan, Yucatan, the practical use of analogous council-houses is described (p.

209). The Irish tower and seven houses are remarkably in accord with the scheme of organization used in ancient Greece where, at Tenos, each gens was known as “a tower” and each gens, as well as its town, was divided into at least seven parts (p. 456).

132.

John Speed relates that one of the kings of Kent, named Catigera, “was interred upon a plain where his monument vulgarly called ‘citscotehouse,’ consisted of four stones pitched in the manner of the stonehenge.” It is tempting to see in the four stones “pitched” around the grave, the underlying thought of a resting-place in the cosmical centre, of the symbolized four quarters, and to view the prehistoric crosses of Ireland and Scotland as emblematic of the Middle and Four Quarters, associated with secret pole-star and cosmical cult and employed as symbols of time and of quadruplicate government.

133.

Celi-Ced and the cult of the wren. Theosophical review, June 15, 1900.

134.

Light is thrown upon the possible conception of Ursa Major as Thor's wagon and the most primitive form of chariots in general by the archaic chariot of state used, to this day, in Corea and formerly in Japan. It is one-wheeled and the seat, destined for one person, is placed high above the single wheel and rests upon two long poles, the ends of which project in front and behind. Four men are required to support and push this chariot of state, a fine example of which has lately been secured for the Museum of Salem, Mass., by Prof. E. S. Morse.

135.

It is with keenest interest that I look forward to learning, from the distinguished archæologists of Sweden, among whom I have the honor of having highly-esteemed, personal friends, how far their observation and deeper knowledge lead them to entertain views I have advanced concerning the origin of the swastika and the influence of pole-star worship upon the development of primitive religion and social organization. It is from them that I expect information as to the relation of the prehistoric inhabitants of Scandinavia to the ancient centres of civilization which have been discussed.

136.

Hewitt states (p. 90) that, "it was successively immigrating races from the North ... who placed a king at the head of the confederated provinces formed from their confederated villages.... The confederate form of these kingdoms is shown in such names as Chuttisgurh which means the 36 gurhs or united provinces. But the final consolidated form of the pre-Aryan Indian village was that framed by the Kushites. It was they who placed the royal province in the centre of the kingdom.... It was on these principles that the government of the Ooraon village of Chota Nagpore was constructed. The Ooraon form of village government is that which has been preserved with less alteration from subsequent invaders than that of any other part of India, for the Ooraons, Mundas, Ho-kals and Bhuyas have always been able, under the protection of their mountain fastnesses, their political organization and their natural love of independence, to keep their country free from the interference of the hated Sadhs, the name by which they call the Hindus. But these people, who repelled and held themselves aloof from later invaders were of no less foreign origin than those who succeeded them, for they were all formed by the union with

the matriarchal Australioids *and patriarchal Mongols or Finnish and other Northern stocks*, most of whom were formed into confederated tribes of artisans and agriculturists in Asia Minor and it was from the southern part of Asia Minor or Northern Palestine, that the Ooraons came. They themselves say that they came from Western India, from the land of Ruhidas [the land of the red men], but this means Syria, the country whose people were called Rotou by the Egyptians, and they were the race who introduced barley and plough-tillage into India and Chota Nagpore."

Particular attention is drawn to Wylie's statements, quoted on p. 303, concerning the migration of Israelites to China, via Persia (about A.D. 58-75) and the native record that Christianity was the ancient religion of Ta-Tsin = Syria. Hewitt's identification of Syria as the "red land" causes the Ooraon and Chinese traditions to agree in assigning it as the common source of origin of their civilization. According to Professor Sayce it was "about B.C. 600 that the Phœnicians penetrated to the northwest coast of India," and "tradition brought them originally from the Persian Gulf" (Ancient Empire of the East, p. 183).

137.

The recent discovery, by Prof. Flinders Petrie, of the mummy of Aha-Mena, and of six other kings of the first dynasty, suggests the possibility that they may have reigned simultaneously and constituted a heptarchy(?). Although it would materially affect Egyptian and Babylonian-Assyrian chronology as it now stands, historians may yet find it necessary to make a revision taking into deeper consideration the existence of tetrarchies and heptarchies in which a number of

kings and subrulers reigned simultaneously.

138.

To assist these four principal secretaries are two under-secretaries, one Manchu and one Chinese, and a board of ten assistants. Together, these sixteen secretaries divided between two races, constitute a grand secretariat, which acts as nearly as possible as the cabinet of the Emperor. (Missions in China. Jas. S. Dennis, D.D.)

139.

This association of Tenos with seven-fold division is particularly suggestive because, in Pythagorean philosophy, the number seven was named Parthenos, Athene, also Apollo, Hermes, Hephaistos, Heracles, Dionysius, Rex, etc. These divinities, the second and third of which are specially known as patrons of cities, appear in a new light when it is realized that they were personifications of the number seven and, by extension, of the seven-fold cosmos, state and city. On p. 449, Plato's division of the Cosmos is cited. Reference to the history of Greek philosophy shows, however that the spurious existence of four or five elements had not always been accepted in Greece, that Thalês (640-550 B.C.) had laid down the doctrine of a single eternal, original element, water or fluid substance, and "assimilated the universe to an organized body or system." Xenophanës (570-480 B.C.) conceived "nature as one unchangeable and indivisible whole, spherical, animated ... penetrated by or indeed identical with God." It is usually accepted that it was Empedocles (444 B.C.) who first formulated the elements, earth, air, fire and water, to which later philosophers added a fifth, the all-embracing æther.

In a luminous monograph (Pythagoras und die

Inder, Leipzig, 1884.), Professor L. von Schroeder, of Dorpat, Russia, quoting the authority of Professor Max Müller, Edward Zeller and Oldenburg, has conclusively shown that the five elements, earth, fire, water, air and æther (Sanskrit ākaçā) already occur in the Brahmanas; were taught in the Sāmkhya philosophy of the Kapila and were therefore known in India at least as far back as in the seventh century B.C. The idea of the five elements is so familiar to the Hindus at the present time that death is usually spoken of as "a dissolution into the five elements," or a "going over into the Five." Professor von Schroeder's conclusion is that Pythagorean philosophy derived the elemental divisions from India as well as its doctrine of transmigration, etc., and its science of geometry and of number, mentioning, in support of the latter assertion, the fact that Sâmkya, the name of the ancient Indian school of philosophy, signifies "number," that its followers were therefore designated as "philosophers or teachers of numbers." At the same time I point out that, according to Oliver, "a large portion of Egyptian philosophy and religion was constructed almost wholly upon the science of numbers and we are assured by Kircher (Oedip. Egypt, II, 2) that everything in nature was explained on this principle alone."

Returning to Professor von Schroeder's work I refer the reader to pp. 59 and 65, and notes for an extremely interesting discussion of the Greek name of the fifth element that figures in the work of Philolaus, the first who wrote a treatise on the Pythagorean system of philosophy. The name employed has been deciphered by different authorities as ὅλχας, ὁλχας, χυχλάς, ογχος, ὁγοτας, or ὅλας. The interpretation given is that the name (the first syllable of which recurs in

the word Olympus) signified “that which moves or carries with it the universe.” Professor von Schroeder suggests that the name may be a corruption of the Sanscrit name for æther, the all-embracing element, âkâça. I venture to recall here the curious fact that, in ancient Mexico, the symbol, enclosing the four elements, is always designated as the ollin, a word associated with the idea of “movement” and of life = yoli.

In his work on the “Pythagorean Triangle,” the Rev. G. Oliver gives an extremely clear account of the Pythagorean philosophy and tells us that its central thought is the idea of number, the recognition of the “numerical and mathematical relations of things....” “The Pythagoreans seem,” says Aristotle, “to have looked upon number as the principle and, so to speak, the matter of which existences consist;” and again “they supposed the elements of number to be the elements of existence, and pronounced the whole heaven to be harmony and number.”

Concerning the universe, like many early thinkers, as a sphere, they placed in the heart of it the central fire to which they gave the name of Hestia, the hearth or altar of the universe, the citadel or throne of Zeus. Around this move the ten heavenly bodies ... the earth revolved on its own axis....

They developed a list of ten fundamental oppositions: 1, limited and unlimited; 2, odd and even; 3, one and many; 4, right and left; 5, masculine and feminine; 6, rest and motion; 7, straight and crooked; 8, light and darkness; 9, good and evil.... The union of opposites in which consists the existence of things is harmony; hence the expression that the whole heaven or the whole universe is harmony. Pointing out that

it is only by a combination of odd and even numbers that a harmonious cycle is created, I continue to cite from Mr. Oliver's work: “The decade, as the basis of the numerical system, appeared to them to comprehend all other numbers in itself, and to it are applied, therefore, the epithets quoted above of number in general. Similar language is held of the number ‘four’ because it is the first square number and is also the potential decade ($1+2+3+4=10$). Pythagoras is celebrated as the discoverer of the holy ‘Tetraktos’ the fountain and root of ever-living nature, or the Cosmos consisting of Fire, Air, Earth, Water, the four roots of all existing things.

“Number,” says Philolaus, “is great and perfect and omnipotent, and the principle and guide of divine and human life. Number then is the principle of order, the principle on which cosmos or ordered world exists.” Without number and the limitation which number brings, there would only be chaos and the illimitable, a thought abhorrent to the Greek mind.

140.

“The four Ionic tribes were abolished by Kleisthenes (510 B.C.) who created, in their place, ten new tribes founded on a new principle, independent of the gentes and phratries. Each new tribe comprised a certain number of demes or cantons with the enrolled proprietors and residents in each of them. Each tribe had a chapel, sacred rites and festivals and a common fund for such meetings, in honor of its eponymous hero, administered by members of its own choice; and the statues of all the ten eponymous heroes, fraternal patrons of the democracy, were planted in the most conspicuous part of the agora of Athens.... The

demes taken altogether, included the entire surface of Attica. Simultaneously Kleisthenes divided the year into ten portions called Prytanies,—the fifty senators of each tribe taking by turns the duty of constant attendance during one prytany and receiving during that time, the title of The Prytanes. The order of precedence among the tribes in these duties was annually determined by lot.... Moreover, a further subdivision of the prytany into five periods of seven days each and of the fifty tribe-senators into five bodies of ten each, was recognized; each body of ten presided in the senate for one period of seven days, drawing lots every day among their number for a new chairman called Epistates, to whom, during his day of office were confided the keys of the acropolis and the treasury, together with the city seal." The remaining senators, not belonging to the prytanizing tribe, might of course attend if they chose, but the attendance of nine among them, one from each of the remaining nine tribes, was imperatively necessary to constitute a valid meeting and to insure a constant representation of the collective people. During those later times —the ekklesia or formal assembly of the citizens, was convened four times regularly during each prytany ... (*op. cit.*, vol. IV, p. 138). Special attention is drawn here to the intimate association of the system of government and the calendar, analogous to the ancient Mexican system.

"The number of inhabitants an ideal state should contain and their numerical organization were evidently subjects of supreme interest to Greek statesmen and philosophers. The great work by Aristoteles (384-322 B.C.) on Politics, 'according to Grote,' was based on a collection made by himself, of 158 different constitutions of states,

which collection has, unfortunately, been lost." "The purpose of comfortable subsistence for which commonwealths are instituted, requiring a minute subdivision of labor," Aristotle says, that "in this particular view, the more populous the community its end will be the more completely attained.... All things considered he declares in favour of what would be now deemed a very small commonwealth, consisting of 15,000 or 20,000 citizens...."

"In his 'Book of Laws' Plato intended to delineate a more practicable scheme of government than that of his first.... His two republics nearly agree in form, though they differ in magnitude; the first containing one thousand and the second five thousand and forty men bearing arms.... In his second republic he equalizes estates but leaves population unlimited.... A regulation directly the reverse of this is introduced by one of the most ancient writers on the subject of politics, Pheidon of Corinth, who limits population, but does not equalize possessions.... The republic, planned by the architect Hippodamus, consisted of ten thousand men, divided into the three classes of artificers, husbandmen and soldiers. The territory he likewise divides into three portions: the sacred, destined for the various exigencies of public worship; the common, to be cultivated for the common benefit of the soldiers; and the private, to be separately appropriated by the husbandmen. His laws were also divided into three kinds...." (Aristotle's Ethics and Politics, John Gillies, LL.D., London 1804).

The knowledge that a republic was actually planned on the scheme of three-fold division naturally suggests the possibility that the Sicilian coat of arms, the triskeles, may be a survival of a

period when a similar republic existed in Sicily and the year was divided into three seasons only. (For interesting details concerning the employment and spread of a year of three seasons in ancient times, see Hewitt, *op. cit.* Preface XVI, vol. I.)

In Grote's history we learn that after the establishment of the first Athenian democracy by Kleisthenes and the victory they gained over the Bœotians and Chalkidians, the Athenians *planted a body of four thousand* of their citizens as kleruchs (lot-holders) or settlers upon the lands of the wealthy conquered Chalkidians. This is a system which we shall find hereafter extensively followed out by the Athenians in the days of their power; partly with a view of providing for their poorer citizens, partly to serve as garrison among a population either hostile or of doubtful fidelity. These Attic kleruchs did not lose their birthright as Athenian citizens: they were not colonists in the Grecian sense and they are known by a totally different name—but they corresponded very nearly to the colonies formally planted out on the conquered lands by Rome. The increase of the poorer population was always more or less painfully felt in every Grecian city ... the numerous kleruchies sent out by Athens, of which this to Eubœa was the first, arose in a great measure out of the multiplication of the poorer population, which her extended power was employed in providing for ... (*op. cit.* vol. 4, p. 171). The number "four thousand" specially designated is of particular interest because the letter of the Greek alphabet expressing it was the delta, in the form of a triangle or pyramid, which also signified "the fourth" or "a quarter." The ideas suggested by these facts are: that the foundation of such a colony would have been commemorated by the

building of a pyramid by the conquered race, the division of labor amongst them preparing the way for the institution of a social organization on the familiar plan (*cf.* p. 273). It is only when we reflect what an admirable means of establishing communal life and activity the mere act of building under direction and guidance must have been, that we appreciate the fine wisdom of the ancient kings, civilizers and culture-heroes, who were, first of all, master builders, architects and masons and who began the work of rearing an empire by directing the erection of a monument which, by its form, expressed the all-pervading plan of organization.

141.

"Taylor says that the reason Plato adopted this division is because the number 12, the image of all-perfect progression, is the product of 3 by 4, both of which numbers, according to the Pythagoreans, are images of perfection. On the other hand, Ast conceives that Plato had in mind the division of the country in twelve parts found in Egypt and elsewhere, and which seems, as may be inferred from other portions of his work, to have been connected with the division of the year into twelve months, each under the superintendence of one of the twelve greater gods." To this note I add the remark that, in B. VI, C. 8, Plato distinctly refers to the twelve tribes as "the thrice four tribes, recommending that they should appoint thrice four interpreters," one for each tribe. It should also be recalled that Cecrops is said to have employed the division into twelve and is supposed to have brought it from Egypt. In the present summary the employment of the same division in other countries can be verified.

It may be of interest to note here that, like the

Egyptians, the Greeks divided their month into 3 decades. The year consequently contained $3 \times 12 = 36$ decades $+ 5$ days.

142.

Considering that the employment of silver or gold currency among the nations of antiquity has been regarded, by some, as a proof of advanced culture, it is interesting to learn, from the following passage, that, as a result of experience and with wisdom and foresight, Plato recommended the adoption of different forms of currency in each different state, in order to avert the dangers resulting from the accumulation of riches. "A law ... that no private person be permitted to possess any gold or silver; but that there be a coin for the sake of daily exchange, which it is almost necessary for handicrafts to change and for all who have need of such things to pay the wages due to hired persons, be they slaves or domestic servants. On which account we say that *they must possess coin which is of value to themselves, but of no worth amongst the rest of mankind*." It is curious to note how closely the employment of the cocoa bean, in ancient Mexico and of wampum in North America, as the staple currency, fulfilled the purpose recognized as desirable, by Plato.

143.

At the last moment I learn that fragments of Ægean pottery lately found at Abydos in tombs of the Egyptian kings of the first dynasty, by Prof. Flinders Petrie are considered to prove that, "Grecian merchants sailed the seas in 4500 B.C., ... a conclusion further borne-out by the pictures of vessels with 60 oarsmen, vessels quite large enough for crossing the Mediterranean, which have been seen on prehistoric memorials of the oldest inhabitants of Egypt" (Rawnsley). In this connection it is interesting to learn, from

Professor Sayce, that the Phœnician galley was the model of the Greek one, that it was at Carthage that a ship, with more than three banks of oars, was first built, and that its pilots steered by the pole star, not, like the Greeks, by the Great Bear (Ancient Empires of the East, p. 205).

144.

An interesting interpretation of this somewhat obscure sentence is obtained by collating it with the conception of "the revolving eye of the Norse world mill-stone which was directly above Oergelmer and through which the waters flowed to and fro from the great fountain of the Universe mountains" (p. 472). The analogy is strengthened by the fact that the mountainous region in which Kyrênê was situated has always been noted for its fertility, the water, from the mountains enclosing its plains, settling in pools and lakes, affording a constant supply, during the summer months, to the Arabs who frequent it. The feature of Kyrênê, most renowned in antiquity, was its inexhaustible Fountain of Apollo, and travellers describe how, to this day, the Bedouin Arabs flock to it when their supply of water and herbage fails in the interior. Grote states that the same circumstance must have operated in ancient times to hold the nomadic Libyans in a sort of dependence upon Kyrênê (Grote, *op. cit.* vol. IV, p. 37).

The realization that an inexhaustible fountain of water meant life to primitive nomadic people, enables us to understand the expression "fountain of life" and the constant associations of the sacred central mountain with pools of water and streams flowing in four directions. It is remarkable and highly suggestive how closely the following topographical details, given by Grote, of the original seat of the Macedonians (which were in the regions east of the chain of

Skardus, north of the chain which connects Olympus with Pindus and which forms the northwestern boundary of Thessaly), coincide with the conception of Mt. Meru, for instance.

"Reckoning the basin of Thessaly as a fourth, here are four distinct inclosed plains on the east side of this long range of Skardus and Pindus,—each generally bounded by mountains which rise precipitously to an alpine height, and each leaving only one cleft for drainage by a single river,—the Axius, the Erigōn, the Haliakmōn and the Peneius respectively. All four plains ... are of distinguished fertility ..." (Grote, *op. cit.* vol. IV, p. 10). The close vicinity of Olympus, the Grecian "divine mountain," is particularly suggestive, inasmuch as it proves to be geographically associated with four remarkable plains and rivers.

145.

"This metaphorical name (the Krittakas) was derived from the vocabulary of the Northern races, who had learned in Asia Minor and the neighborhood of the Caspian Sea to spin thread and weave cloth from the flax of Asia Minor, and the hemp of the shores of the Caspian Sea, and who had taken their knowledge with them when emigrating to the villages of the Neolithic life in Europe and to the Kushite Empire in India, where they divided the people into guilds or trade unions, founded on community of function, and discovered how to use cotton thread for weaving. The reverence of the Ashura Kushika for the Pleiades, whose mother star is Amba, also proves them to be connected with the southwestern Semites, the Himydritic Arabs of Southern Arabia, the land of Sheba, meaning *seven*, meaning the seven stars of the constellation of the Great Bear, called by the

Arabs Al-suha, who first worshipped the Pleiades with its 6 stars, the sacred number of the Ashura, as their mother constellation, under the name of Tur-ayya, or children of the father-pole (tur, of the Turanian race) ...” (Hewitt).

146.

Various writers have observed and pointed out the close resemblance in form and decoration, between the terra-cotta whorls found, in profusion, in Mexico and those of Troy.

147.

There is, however, a wide difference between Hewitt's views and mine concerning the stars associated with the year wheel and the origin and meaning of the primitive cross-symbols and swastika, although at times they partially agree. As Hewitt gives several totally distinct and different explanations of the origin and significance of crosses and swastikas, it is difficult to understand clearly his standpoint. On p. 9, vol. II, he makes an interesting differentiation between a diagonal or transverse and upright cross, respectively designating them as rain-cross and fire-cross, and states that their superposition forms the eight-rayed star, the Akkadian and early Indian sign of Anu = god. On p. 145, vol. II he names the transverse cross a sun-cross and says it describes the track of the sun across the heavens, on solstitial days and distinctly describes the swastika in the centre of the triangle on the Hindu altar, as “a symbolic picture of the sun rising at midsummer in the N. E. and setting in the N. W., and at the winter solstice rising in the S. E. and setting in the S. W.” On the other hand Hewitt associates the right-angled cross with the fire-god and the pole-star (p. 191, vol. II), and the five-rayed star of Horus as the rain or meridian pole, or mountain standing in the midst of the four stars marking

the four quarters of the heavens (p. 9, vol. II and p. 17, vol. I). I recommend a careful re-perusal of all of Hewitt's interpretations of cross-symbols and swastika and a close comparison of these with my views, as set forth in the beginning of the present publication, to Mr. Stansbury Hagar who, somewhat hastily, upon hearing my brief communication to Section H of the A. A. A. S. in New York, June 1900, stated (in the October number of the Folklore Journal) that my view concerning the origin of the swastika was the same as that suggested by Hewitt.

148.

Referring the reader to pp. 186-192 for details concerning native tree worship, I shall but add that to this day, among certain North American tribes, the planting of the sacred tribal pole in the hallowed earth socket is accompanied by curious ritualistic marriage rites, and the ceremonial kindling of the sacred fire of the fire drill. For the association of four Mexican tribes with four tribal trees and totemic birds, see fig. 53, and note that the central figure, enclosed in a square, is represented as though four streams of blood, flowing from the four angles, converged in his person, constituting him the "Four in One."

149.

The only mention of a movable axle or hub that I know of in Mexican chronicles is the cylinder of wood, described on p. 24 as being shaped like a mortar. The only native illustration I have met which suggests the native employment of some kind of revolving press or axle is the curious and clumsy apparatus figured on pp. 11 and 12 of the Selden MS. preserved at the Bodleian Library at Oxford, and reproduced by Kingsborough. An examination of this strange mechanical contrivance apparently associated with a

monkey = ozomatli, and the sacrifice of two prisoners, will be found as interesting as it is puzzling.

150.

In a paper read to the Section of Anthropology of the New York meeting of the American Association for the Advancement of Science, Mr. Stansbury Hagar communicated the interesting results of his study of the Salcamayhua tablet which has been alluded to on p. 162 of the present publication. With his kind authorization I take pleasure in citing here his interpretation of the name of the Peruvian Creator, an abbreviation of which is inscribed on the plate or tablet. It will be found to accord with that given by Sir Clements B. Markham (History of Peru, p. 20), but to be more explicit. According to his view the name should be analyzed as follows: illa = light, lightning = fire; ticci = foundation, brick = earth; uayra *i. e.* huaii = air, wind; cocha = lake = water.

"Illa ticci uayra cocha would thus mean: the universal spirit defined by naming what seemed to a people unacquainted with scientific chemistry to be the four ultimate elements."

Referring to the cognate Aymara language, Mr. Hagar interprets the name pachaya chachic as "source, lit. male ancestor, grandfather of all things," and states that the opening inscription on the tablet should therefore read: "Spirit of Fire, Earth, Air and Water, source of all things" ... that is to say "image of the source whence heaven and earth have emanated." Mr. Hagar states that this source seems to be appropriately figured by the oval form which he interprets as an egg (see fig. 28, *c*). On the other hand I point out that the flat plate of fine gold, which was set up by the Inca Manco Capac between images of

the sun and moon, is figured as circular in shape (fig. 28, *b*).

I draw attention to Mr. Stansbury Hagar's interesting and suggestive paper on "The Celestial Bear," which appeared in vol. XIII, no. XLIX, of the Journal of American Folk-lore, in July, 1900. In this he relates the legend connected with Ursa Major by the Micmac Indians, that "this group of stars served to mark the divisions of the night and the seasons for the Micmacs." A point of particular interest in connection with the Micmac legend is the fact, so clearly distinguishable, that the story was suggested to the minds of the Indians by the different positions assumed by the constellation in its annual circuit around Polaris.

"The Micmacs say,.... In all things as it was and is in the sky, so it is on earth.... In midspring the bear does actually seem to be climbing down out of her [celestial] den [*corona borealis*], which appears higher up to the northern horizon. In midsummer ... the bear runs along the northern horizon.... Soon after the bear assumes an erect position she topples over on her back [is slain] in the autumn. In midwinter she lies dead on her back, ... but the den [*corona borealis*] has re-appeared, with the bear of the new year lying therein, invisible. But this does not end the story of the bear, ... through the winter her skeleton lies upon its back in the sky, but her life spirit has entered another bear who also lies upon her back in the den, invisible and sleeping the winter sleep. When the spring comes around again, this bear will again issue forth from the den to be again pursued by the hunters, to be again slain, but again to send into the den her life-spirit, to issue forth yet again when the sun once more awakens the sleeping earth. And so the drama

keeps on eternally." Reasoning by induction, I am strongly tempted to assign the origin of the Egyptian myth of Osiris and of the "child in its cradle," to the same source of inspiration—possibly also other myths of antiquity, such as the twelve labors of Hercules (held by O'Neil to be a pole-star god) may be assigned to the same source. At all events, the Micmac example is extremely instructive and suggestive.

The following extracts from Mr. Hagar's paper establish that Ursa Major was known as the Bear to several North American tribes, and generally served to mark time and seasons. "In a Blackfoot myth we read: The seven Persons slowly swung around and pointed downward. It was the middle of the night," showing that they too marked the time at night by the position of these stars. So the Zuñis tell, when winter comes, how the bear, lying, sleeps, no longer guarding the West land from the cold of the Ice gods, etc., a story which demonstrates that in Zuñi mythology there was a marked association between the terrestrial bear [the "great white bear of the seven stars," Cushing] and the seasons.

The Ojibways mention the constellation in connection with the four quarters in heaven, showing that they, at some time, were accustomed to mark their seasons not only by the position of the stars of the Bear, but also by the rising and setting of various fixed stars.

In conclusion I would state that Miss Alice Fletcher has informed me that, among the Omaha Indians, time is measured by Ursa Major, and that the pole-star is named the "Star which never travels."

"The amulet is of finely wrought silver, with magic inscription, the seven-branched candlestick of Jerusalem and the usual Christian monogram. The inscription is in Greek, mixed with barbarous and unintelligible forms. It contains however express allusions to Christianity and states that whoever wore it would be sure to please gods and men." It is well known that Constantine had on the reverse of his coin the inscription Sol Invictus and on the obverse the monogram of Christ. "This has been interpreted as a proof that the sun was his own guardian deity," but I venture to explain the adoption of the sun as analogous to the ancient Egyptian mode of designating the sovereign as the son of the sun, the sacred representation of Heaven. Dean Stanley (Eastern Church, p. 193) refers to Constantine's "mode of harmonizing the discordant religions of the empire under one institution and retention of the old Pagan name of Dies Solis or Sunday, for the weekly Christian festival," which was recommended by Constantine to his subjects, Pagan and Christian alike, as "the venerable day of the Sun."

152.

"No country in the world can compare with India for the exposition of the pyramidal cross.... The body of the great temple of Bindh madhu (formerly the boast of the ancient city of Benares ... demolished in the seventeenth century) was constructed in the figure of a colossal cross, with a lofty dome at the centre, above which rose a massive structure of a pyramidal form. At the four extremities of the cross there were four other pyramids.... A similar building existed at Mhuttra.... By pyramidal towers placed crosswise the Hindoo also displayed the all-pervading sign of the cross. At the famous temple of Chillambrum, on the Coromandel coast, there were *seven* lofty walls, one within the other,

round a central quadrangle, and as many pyramidal gateways in the midst of each side which forms the limbs of a vast cross" (Faber, quoted by Donelly in Atlantis, p. 335).

153.

"The Tur-vasu, or people whose creating god (vasu) was the pole (tur), when united with the traders of the south, became the mercantile mariners of the Indian Ocean, who had imposed their rule and traditions both on the lands of Northern India and on those of the twin rivers, the Euphrates and Tigris.... From India, the only land on the Indian Ocean where they could build sea-going ships, they extended their trade, forms of government and national myths, first to the Euphratean kingdoms and afterwards to Egypt and Syria, where they were known to the Greeks as the Phœnicians" (p. 356).

"These people had seven parent stars whose names are preserved. Professor Sayce has identified the first of these, Sugi, with 'the star of the Wain' and states that it means the 'creating-spirit-reed' or the northern khu = bird, the 'reed of the bird, the mother of life.' Sugi is therefore an additional name for the Bear to that of Bel, distributor of waters.... In both names the metaphor is the same, for it is from the reeds at the source of the rivers, their point of distribution, that the rivers are born.... Both names denoted the star that led the year and it was the Great Bear, as Sugi, that led the earliest year, opening with the week of creation" ... (p. 357). ... "The sons of the Tur or pole were the Indian Tur-vashu, the Zend Turanians, the mariners of Asia Minor called by the Egyptians Tour-sha (Maspero), the sea traders of the Mediterranean called the Tur-sene of Lydia, the Tur-sena or Tyrrhenians of Lemnos and Etruria, who spoke a language closely allied to that of

the Akkadians. That their god was worshiped in Cyprus and Asia Minor is proved by the *terra-cotta whorl* found in one of the settlements on the site of Troy, dedicated in Cypriote characters to Patori-Turi, the father Tur, who gave his name to the Phrygian city of Turiaion. The great antiquity of the settlement is proved by the fact that though some bronze knives and instruments were found in it, by far the greater number of implements were of stone and the pottery, though similar to that of Mycenæ, is of a more archaic type" (Schuchhardt's Schliemann's Excavations, App. I, 331-332 and 334).

"They were also the first spinners, weavers, makers of pottery and built canoes and worked in mines.... They grew wheat, barley, peas, flax and fruit trees.... These men covered the whole of Europe and Southern Asia ... and the Indian Dekhan with cromlechs and stone circles, which were certainly in some cases roofed over, dolmens, meaning stone tables, shrines, altars, tumuli and memorial stones or pillars and all of these, whether found in Western Europe or Southern Asia, are completely identical in character. These people had, in their migrations, established an active and widespread foreign trade..." (p. 178).

"These maritime Tursena were intermingled with the matriarchal Amazonian tribes who preceded them, and who seemed to have founded the ancient ports of Asia Minor and Palestine, especially the Ionian cities of Smyrna and Ephesus and that of *Askelon*. It was in the land of Phrygia, the mountain countries of the Caucasus range and the snowy heights whence the Euphrates rose, that the earliest shepherds met the matriarchal races, the immigrants from the southeast, the Hindu village communities, who

are called by the Greeks Amazons, and are described as the earliest ruling races of Asia Minor and Greece (p. 175)."

"... The Great Naga is the Akkadian god Ner-gal, and the Phœnician god Sarrahu, or the Great Sar. His name among the Shuites, or the worshippers of Susi-nag on the west of the Euphrates, is Emu, a name which is letter for letter the same as that of the national god of the Ammonites, Amun" (Sayce: Hibbert Lectures, 1887, III, p. 196, note 1. "Amun means the builder, or architect, and is, like that of the Egyptian god, formed of aman, to sustain" (Gesenius, Thesaurus, p. 115). "He was the god of the house pole, who became in Egyptian Thebes, Amen-Ra, the hidden, and it was the people who made the house-pole the symbol of their ancestors, ... who brought to Egypt as well as to Assyria and India, the custom of having cities for the dead apart from those for the living.... It was from the rains of the summer-solstice ... generated from the Naga snake that the Phœnician sons of Kush were born, whose kings, like those of Egypt, wore the Uræus snake as a sign of royal authority. Their original settlement, according to a tradition recorded by Theophrastus, was at *Tulos* or Turos, in the Persian Gulf, the modern Bahrein. This was the holy island of Diloun, called Dilmun by the Akkadians.... It was the settlement of Hindu navigators in the holy island of Dilmun in the Persian gulf, and at Eridu, which first brought them in contact with the Arabian star-gazers and merchants, and it was the union, in the ancient city of Ur, of these races with the Hebrew tribe of Gad (who built, not only the cities of Bashan, but also those of Assyria and were the great builders of the ancient world), which first formed the Semite race. It was the meridian

pole, the heavenly, revolving pole, the Tur of the Akkadians, which the Dravidian traders of India brought with them to Eridu" (p. 292). "It was these Tursena who, by developing the ancient organization of the village and province in India, divided all the countries they occupied into confederacies of cities, such as we find among the Euphratean nations, the Egyptians, Canaanites and the people of Asia Minor, Greece and Italy. It was they who were the fathers of Greek and Latin civilization." (p. 296). "It was these people who brought from India their village institutions, their holy groves and seasonal dances.... Among them the Finnic mining races descended.... It was in Phrygia that they were mixed with the Daktuloi, or race of handicraftsmen and artificers, the sons of Dak, the showing or teaching god, the god Daksha, the father of the Kush race.... They were the carpenters and builders of the Stone age."

Prof. Sayce's "Ancient Empires of the East" furnishes further interesting details concerning the Phœnicians. According to this eminent authority, at an early date, in order to relieve the pressure of population, they sent out organized colonies to the recently discovered lands of the West. Accordingly commercial marts were established at Thera and Melos,.... Colonies were established at Attica, on the coast of Africa, in Sicily, Sardinia and Corsica, and beyond the columns of Herakles, in Gadeira. The three cities of Rhodes were planned by Phœnician architects.... The Assyrian character of early Greek art is due to its Phœnician inspiration.... It was about "B.C. 600 that these people penetrated to the northwest coast of India and probably to the island of Britain as well.... They were the intermediaries of ancient civilization ... and the chief elements of Greek art and

civilization came from Assyria through the hands of Phœnicians.... Phœnician art was essentially catholic ... it assimilated the art of Babylonia, Egypt and Assyria superadding something of its own.... Their chief deity was Yeud or Ekhad = the Only One ... they worshipped the Kabeiri ... originally seven stars ... who were the makers of the world, the founders of civilization, the inventors of ships.... The cities of Phœnicia were the first trading communities the world has seen.... Their colonies were originally mere marts and their voyages of discovery were taken in the interests of trade. The tin of Britain, the silver of Spain, the birds of the Canaries, the frankincense of Arabia, the pearls and ivory of India, all flowed into their harbours.... Many of their colonies were wholly independent, and governed by their own kings and benefiting Phœnicia only in the way of trade.... In Phœnicia ... the king seems to have been but the first among a body of ruling ... princes and ... chiefs. In time the monarchy disappeared altogether, its place being supplied by suffetes or 'judges,' whose term of office lasted sometimes for a year, sometimes for more, sometimes even for life.... At Carthage there were two suffetes, who were merely presidents of the senate of thirty ... whose power was subsequently checked by a board of one hundred and four.... By providing that no member of the board should hold office for two years running, Hannibal changed the government into a democracy."

154.

Evolution and Ethics. Appleton ed. New York, 1896, p. 104.

155.

"Death no Bane," translation by Robert Black, M. A., Sampson Low, Marston & Co., London, 1889, p. 121, note.

156.

Merely as affording a glimpse of the troublous period during which Plotinus lived, I recall the fact that Caracalla, visiting Egypt, caused a large number of young men to be massacred at Alexandria (A.D. 211). Between A.D. 248 and 268, Alexandria was the seat of civil war for twelve years, and through war, famine and pestilence, in a few years, about half of the population, not only of Alexandria, but of Rome, perished. A general persecution of Christians was also carried on at this period, and in A.D. 268 Zenobia invaded Egypt.

157.

To those of my fellow-workers who have made a special study of the most ancient forms of cursive and ikonomatic writings of the Old World, I should like to submit some facts concerning the ancient Mexican method, which may carry a fresh suggestion and be an aid to future research.

When the first Spanish missionaries who reached Mexico found themselves confronted by the barrier of language and wished to teach the native converts the Lord's Prayer in Latin, they adopted the method of picture writing employed by the aborigines. By painting a banner = pantli, a stone = tetl, a cactus = nochtli and another stone = tetl, they conveyed the words Pa-te-noch-te, which, approximately, represented paternoster. The consequence was that the Indians were able to memorize prayers in a language unknown to them, by referring to pictures of objects and naming these in their own tongue. A number of curious documents exist, which exhibit a great difference and variety in execution and are more or less cursive, according to the artistic sense and ability of the missionary or converted Indian who drew them.

The fact that Spaniards, possessing our mode of writing, should have found picture-writing the most effective means of teaching primitive people speaking an alien tongue has always appeared to me as most instructive and suggestive.

As the natives suggested this method to their instructors, it is obvious that it was their habitual mode of memorizing a foreign language. The possibility that words recorded in native pictography may belong to an alien tongue, opens out a new field for future research. A curious result is obtained when Tenoch-Titlan, one of the ancient names of the capital of Mexico is studied from this point of view. In the well-known rebus now employed as the arms of Mexico, the syllables Te and Noch only are actually expressed in picture-writing by the stone = tetl, from which a cactus = nochtli is growing. This group is, however, surmounted by an eagle holding a serpent in its talons and the meaning of this animal group appears symbolical merely. It may be a curious coincidence that the eagle holding a serpent in its talons was employed by Mediterranean people as an emblem of victory and occurs on ancient Greek coins with this significance, and that the recorded name, Tenochtitlan or "the land of Tenoch," curiously resembles Tenos, the name of a Greek heptarchy, founded by seven tribes just as the adjacent town of Chalco, in Mexico, resembles Chalcis, the town in Eubœa, where Aristoteles died.

On p. 418 and in my discussion of Egyptian hieratic script, I have pointed out that some signs employed express the sounds of words in another tongue, that the syllables am and an, for instance, seem indissolubly and universally

linked to pole-star worship and symbolism. It does not seem unreasonable to endeavor to explain this by imagining that individuals, wishing, in each case, to teach the word *Sama* = the revolving heaven *i. e.* the North, to people speaking different languages, should make a picture of a tree or boat named am in one tongue, and in another country, draw a spider, named am, by its inhabitants. In the first country the tree, or boat, and in the second, the spider, would, in time, become the symbols of the north, and though different, signify the same thing. In time, each sign might be employed to express the syllable am in general and in this way isolated systems of ikonomatic writing would evolve and, in course of time, native artists would more or less skilfully produce conventionalized and distinctly characteristic forms and methods.

At the same time the colonizing race might be employing and perfecting a totally different form of cursive writing for their own purposes of registration, etc. For instance: in Athens, where Euclid held an archonship in 403 B.C. and, during centuries, Pythagorean philosophers identified "earth with a cube, fire with a pyramid, air with an octahedron, water with an icosahedron, and *the Sphere of the Universe* with a dodecahedron," and also taught that a point corresponds with the monad, both being indivisible; a line with the duad, etc., it is obvious that points, lines and geometrical figures must have been employed for the cursive registration of ideas. In a state, firmly established on fixed principles of numbers, the cursive registration of its subdivisions, by means of numbers only, was rendered possible and in such a community the necessity for cursive writing would be limited and perhaps be

confined to the registration and identification of individuals, the reports of quantities of produce, etc.

The facts that the letters of the Greek alphabet possess fixed numerical values, and that the initial letters only of their tribal names were inscribed on the shields of Lacedæmonian, Sicyonian and Messenian warriors, for instance, appear to indicate that, at one time, each Greek tribal division possessed its cursive mark, a letter, which may have indicated, at the same time, a numerical division of the confederacy. To understand such cursive records it is evident that a knowledge of the numerical basis of the state would be indispensable and imperative and that this would be confined to the rulers only. My opinion that the Maya calculiform hieroglyphs constitute cursive notation relating entirely to the calendrical and governmental cyclical system and absolutely unintelligible without a knowledge of this, has already been partially referred to on pp. 242 and 244. From Mexican manuscripts, where individuals, by means of a number and a calendar sign, are linked to a division of the state, I hope yet to be able to clearly demonstrate the practical harmonious working of a machinery of state, established on a perfected numerical scheme, the cursive notation of which was extremely simple.

Meanwhile I offer the foregoing remarks as suggestions for future research and as an expression of my opinion that people, using geometrical and numerical cursive methods of notation in their own country, may have systematically employed the pictographic method in teaching their language to strangers and in establishing their civilization in foreign lands.

158.

It is particularly interesting to learn from Professor Sayce (*op. cit.* p. 188), not only that Phœnician culture had been introduced among the rude tribes of Israel, but that the temple of Jerusalem was built by Phœnician artists after the model of a Phœnician one, the main features of which were the two columns or cones at the entrance and the brazen sea or basin, which rested on *twelve* bulls, this number agreeing with the number of Israelitic tribes and with tribal or caste divisions in other ancient centres of civilization. It is thus certainly suggestive to find the number twelve associated with the Phœnicians, to whom the spread of civilization in the Old World is attributed and whose predecessors, at the period of Babylonian culture, were, according to Professor Sayce, "solitary traders, who trafficked in slaves, in purple-fish ... and whose voyages were intermittent and private."

... "Diodorus Siculus assigns to the Carthaginians the knowledge of an island in the ocean, the secret of which they reserved for themselves as a refuge to which they could withdraw should fate ever compel them to desert their African home. It is far from improbable that we may identify this obscure island with one of the Azores, which lies 800 miles from the coast of Portugal. Neither Greek nor Roman writers make any reference to them, but the discovery of numerous Carthaginian coins at Carvo, the northwesterly island of the group, leaves little room to doubt that they were visited by Punic voyagers."—Sir Daniel Wilson. The lost Atlantis and other ethnographic studies. New York, 1892.

159.

Address of the retiring President of the A. A. A.

S., Columbus meeting, 1899. Proceedings of the A. A. A. S., vol. XLVIII, to which the reader is referred for valuable data.

160.

"Professor Perry, F. R. S., in his admirable monograph on Spinning Tops, (Romance of Science: Spinning Tops, by Professor John Perry, M. E., D.Sc., F. R. S., 1890, pp. 107-110, 12-13, cited by O'Neil, *op. cit.*, p. 540.) shows how a spinning gyrostat whose spinning axis is compelled by the experimenter into a horizontal plane is then constrained by the earth's motion alone to direct its spinning axis due north and south and so to indicate mathematically the lie of the true meridian of its spot. If the spinning gyrostat be next shut off from all other motion except a vertical one in the plane of this meridian, its spinning axis will point its north end up to, and continue to point truly up to, the celestial pole." Then, adds Professor Perry, in terms strangely suitable to my purposes: "It is with a curious mixture of feelings that one first recognizes the fact that all rotating bodies, fly-wheels of steam-engines and the like, are always tending to turn themselves towards the Polestar; gently and vainly tugging at their foundations, all the time they are in motion, to get round towards the object of their adoration."

161.

The Incas claimed to have descended from three windows. See Rites and Laws of the Incas, p. 77.

162.

It is noteworthy that the Zuñi name for village in general is ti´-na-kwin-ne. Tina = many sitting around and kwin-ne = place of.

163.

The accuracy and value of the above article are vouched for, in an interesting way by the Rev.

Samuel M. Zwemer, F. R. G. S. (a missionary who spent ten years in Arabia), who refers to it as follows, and quotes it in his recent publication: “Arabia, the cradle of Islam. New York, 1900,” p. 289. “An anonymous article in the London Standard, Oct. 19, 1894, entitled, ‘A prayer-meeting of the Star-worshippers,’ curiously gave me the key to open the lock of their silence. Whoever wrote it must have been perfectly acquainted with their religious ceremonies, for when I translated it to a company of Sabeans at Amara, they were dumfounded. Knowing that I knew *something*, made it easy for them to tell me more.”

164.

I point out the remarkable fact that the Chinese name for jade = yu, is homonymous with the word for source or origin, hence, perhaps, its sacredness and employment as a secret symbol of the hidden source of all things. See p. 277 for Chinese choice of symbols influenced by sound of name.

165.

The Hindu Yama and Yami were twin brother and sister, and have been respectively identified by Prof. Max Müller as night and day. Yama, the inseparable duality, is entitled law and justice, etc. and was represented with four arms, riding a buffalo, with a crown on his head, accompanied by “two four-eyed watch dogs, which are probably the eight or twice-four regions of the compass”... (Chambers' Encyclopædia). Of the originally cosmical character of Yama there can be no doubt. It is curious to find, at the epic and Puranic period, the account of “Yama” marrying the thirteen daughters of Daksha (north-people, white), becoming the regent of the south and residing in Yamapura, a town in the lower regions; details which appear to indicate the

actual establishment of a kingdom on the familiar plan by an earthly representative of the cosmical deity.

166. This was the first god of the divine triad of whom it is recorded that "they hid their persons;" see Translation of the Ko-ji-ki or Records of Ancient Matters, Basil Hall Chamberlain, vol. X, supplement, Transactions of the Asiatic Society of Japan, Sections I and II from which this and the following names of gods are taken.

167. The Akkadian Sumerian Cosmos is thus described: "Above the earth extended the sky, ana, spangled with its fixed stars (mul) revolving around the mountain of the east (Kharsak Kurra) the column which joins the heaven and the earth and serves as an axis to the celestial vault. The culminating point in the heaven, the zenith (Paku), was not this axis or pole; on the contrary, it was situated immediately above the country of Akkadia [Kalama] which was regarded as the centre of the inhabited lands, while the mountain which acted as a pivot to the starry heavens was to the northeast of this country. Beyond the mountain, also to the northeast, extended the land of Aralli, which was very rich in gold and was inhabited by the gods and blessed spirits" (Lenormant, quoted by Warren *op. cit.* p. 166).

168. This is the Ka of Egyptian theology ... he is the Sek-Nag, the god of the Rāj, or royal race of Gonds, born (ja) of Rā, that is, the sons of Ra-Hu, the begetting (Hu) creating fire-god (Ra). His festival is held every seven years and is attended only by males who are bound to secrecy as to its rites.... This god, the great Nag, is the soul of life

in the rain cloud, the heavenly snake ... the other being the Ahi or Echis, the snake of earth. “To the present day the Jains, who are the great trading race of India, call themselves Ka-ya = the sons of Ka. This name they must have brought with them to the holy island (Dilmun), from thence it must have travelled to Egypt with the race who established the Kushite rule there” (Hewitt).

169.

The titles “Middle king,” “Great Middle princess,” are cited by Chamberlain, *op. cit.* pp. 265 and 267.

170.

Madhu = the inspiring intoxicating honey mead used in the sacred ritual, substituted by a Northern people for the barley liquor offered in the manthin or creating, churning cup. The names given to the drinkers of madhu = “madhuya,” madhu-pā and Madhvi; also madhu-varna, the men of Madhu's caste, are curiously homonymous with the word for Middle Madhyias and appear to designate them as the “Middle caste,” naturally associated with the North.

171.

Quoted by O'Neil from Satow and Hawes' Hdbk. of Japan, 2nd ed. p. 39.

It is interesting to compare the following Japanese words with Miyauken:

MIYO = wonderful, admirable, secret, mysterious, holy.

MIYA = Shinto temple where the kami are worshipped. Japan.

MIYUKI = travelling, going, only applied to

circuit of provinces performed by Mikado.

KEN = imperial domain, or that territory which is under the direct government of the Mikado, *cf.* Chinese k'an = land.

172.

Transactions of Asiatic Society of Japan, vol. x, p. 245, note 2.

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